DOCUMENT RESUME

ED 183 870 CE 024 450

TITLE	Project S.P.I.C.E. Special Partnership in Career Education. Final Report.
INSTITUTION	Volusia County Schools, Daytona Beach, Fla.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
BUREAU NO	554AH80167
PUB DATE	Aug 79
GRANT	G007802013
NOTE	196p.; Not available in paper copy due to light and broken type. For related documents see CE 024 443-449, ED 163 226, and ED 167 775.
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Career Education; *Career Exploration; Curriculum Development; Educational Research; *Fused Curriculum; Junior High Schools; *Mild Mental Retardation; Program Descriptions; *Program Evaluation
IDENTIFIERS	Education Amendments 1974; Florida (Volusia County); Project SPICE

ABSTRACT

The purpose of the Special Partnership in Career Education (SPICE) project was to design a practical, replicable, transportable career exploration curriculum for junior high-aged educable mentally handicapped students. Six career education modules and a guide for integrating career education into an existing curriculum were developed. The six career education modules are (1) Self Awareness, (2) Attitudes and Appreciations, (3) Career/Educational Awareness and Exploration, (4) Decision Making/Beginning Competency, (5) Economic Awareness, and (6) Employability Skills. Students participating in the SPICE program went on site visits to work settings in the community, heard guest speakers discuss their careers, and met with the project staff in large and small groups to discuss career opportunities and requirements. Among the findings of summative and formative evaluation procedures was that the project succeeded in achieving twelve of the fifteen stated objectives. Overall, it was found that the SPICE program was more effective with the handicapped students than the non-handicapped group. (Appended material includes a list of subordinate objectives, project newsletters, and articles related to the project.) (LRA)

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ED183870

PROJECT S.P.I.C.E.
SPECIAL PARTNERSHIP IN CAREER EDUCATION

FINAL REPORT

AUGUST, 1979

THE SCHOOL BOARD OF VOLUSIA COUNTY, FLORIDA

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CE 024 450

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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ACKNOWLEDGEMENTS

Many individuals contributed, either directly or indirectly, to the planning, development, implementation and evaluation of Project S.P.I.C.E. In a project of such large magnitude and short duration, it is seldom possible to acknowledge the efforts of all the persons who contributed to the project's success. Nonetheless, it is only appropriate to mention those whose efforts were essential to the project.

The administration and staff of the pilot school were extremely cooperative and helpful. Special appreciation is extended to Mr. Alex Robertson, Principal of Holly Hill Junior High School in Holly Hill, Florida, and his entire staff and faculty for their efforts in incorporating Project S.P.I.C.E. into the heart of their school's curriculum.

The Chisholm Seventh Grade Center in New Smyrna Beach, Florida, Mr. Lawrence H. Broxton, Principal; the Seabreeze Junior High School in Daytona Beach, Florida, Mr. James L. Whitaker, Principal; and the Southwestern Seventh Grade Center in DeLand, Mr. Albert J. Guenther, Principal, were the comparison schools for the project. Thank yous are extended to the principals, their staffs and faculties for special consideration rendered to the Project S.P.I.C.E. staff.

Throughout the project, Mr. Terry Newell of the U.S. Office of Career Education provided timely advice and assistance as project officer; and most importantly, perhaps, he believed in the project.

And, finally, none of the foregoing could have been brought to fruition without the tireless efforts of Ms. Christine Marra and Mrs. Susan Bradley who typed the original drafts of the Final Report, the Guide to Program Implementation and the six Teaching Modules; Mrs. Carole Keough, who typed the final drafts; and Ms. Susan Horvath, Career Education Specialist with Volusia County Schools, who spent many hours preparing the copy for printing and dissemination. Also, a special thank you to Mrs. Barbara Renner, Assistant Manager for Volusia County Schools, who always found the answers to some of our most difficult logistical problems.

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title IX of the Education Amendments of 1972, Public Law 92-318, states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Therefore, career education projects supported under Sections 402 and 406 of the Education Amendments of 1974, like every program or activity receiving financial assistance from the U.S. Department of Health, Education, and Welfare, must be operated in compliance with these laws.

The material in this publication was prepared pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. However, points of view or opinions expressed do not necessarily represent policies or positions of the Office of Education.

FINAL PROJECT PERFORMANCE REPORT

Project S.P.E.C.E.: Special Partnership In Career Education: A Career Education Program for Educable Mentally Handicapped Students

August, 1973

Submitted by:

Clinton M. Rouse

Clinton M. Rouse, Director

CAREER EDUCATION PROGRAM

PROJECT PERFORMANCE REPORT

1. Project Number: 554AH80167

2. Grant Number: G007802013

3. Nature of Report: Final

4. Project Title: Project S.P.I.C.E. Special Partnership in Career Education: A Career Education Program for Educable Mentally Handicapped Students.

5. Period Covered by this Report: 07/01/78 through 06/30/79

6. Category of Project: Methods and techniques for special populations: educable mentally handicapped

7. Name of Project Director: Clinton M. Rouse

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TABLE OF CONTENTS

Major Activities 1

Participant Summary. 8

Evaluation
- Formative. 9
- Summative. 24

Changes and Problems 119

Dissemination Activities 124

Special Activities 130

Report Abstract 132

Appendix
- A - Revised Objectives
- B - Project Newsletters
- C - Article About Civitan Presentation
- D - Holly Hill Junior High School Newspaper Article
- E - Halifax Reporter Article
- F - Project PEOPLE Newsletter
- G - Articles Concerning National Meeting
- H - Article on Community Involvement
- I - Holly Hill Junior High School Yearbook Essay

MAJOR ACTIVITIES

PROJECT OBJECTIVES

The purpose of Project S.P.I.C.E. (Special Partnership in Career Education) was to design a practical, transportable career awareness and exploration curriculum for junior high age educable mentally handicapped students. Incorporated into this curriculum were: peer facilitation; community career consultants; on-site visitations; and parental involvement.

The curriculum was designed to meet the following student goals as derived from the National Standard Career Education Model:

1. The student will develop an increased awareness of how his interests and abilities relate to his future (Self-Awareness).
2. The student will become aware that a job well done is rewarded by his own satisfaction as well as by recognition from others (Attitudes and Appreciations).
3. The student will explore the variety of occupations found in the world of work (Career Awareness).
4. The student will demonstrate increased knowledge of the level of education and training needed for a variety of occupations (Educational Awareness).
5. The student will make informed decisions (Decision-Making).
6. The student will develop the ability to know where

skill training may be learned. (Beginning Competency).

7. The student will demonstrate increased knowledge of A) the economic system and B) personal finances (Economic Awareness).
8. The student will develop characteristics and skills which contribute to career success (Employability Skills).

These eight goals are the bases for the fifty-nine student performance objectives in the proposal. The fifty-nine objectives were refined to twenty-seven objectives in order to be more realistic in light of the number of project students and the level of treatment to be delivered.

CURRICULUM DEVELOPMENT

Six career education modules and a guide for integrating career education into an existing curriculum have been designed. The six career education modules are:

1. Self Awareness (Goal 1)
2. Attitudes and Appreciations (Goal 2)
3. Career/Educational Awareness and Exploration (Goal 3, 4)
4. Decision Making/Beginning Competency (Goal 5, 6)
5. Economic Awareness (Goal 7)
6. Employability Skills (Goal 8)

Each module identifies the objectives to be met, provides directions on the use of the module, outlines appropriate activities for the module objectives and specifies means of

assessing student achievement. Module activities were designed and selected by project teachers of the handicapped students and project staff. Some activities were developed by the project staff, some were adapted from commercial products, while others were adaptations of existing materials designed by the Florida State Department of Education. Assessment techniques for each module include both an informal assessment (evaluating the quality of pupil participation) and a formal assessment (administration of a test).

The Project S.P.I.C.E. Guide to Program Implementation, designed to help teachers infuse career education into their existing program, includes information on what career education is and is not, and suggestions for how to begin a program, secure cooperation from administrators, teachers, community personnel and parents; how to establish peer tutoring; how to secure financial help; and how to handle the logistics of a program.

CURRICULUM EFFECTIVENESS

In order to determine whether the materials designed for Project S.P.I.C.E. would meet the objectives of a practical, replicable, transportable career awareness and exploration curriculum, a two group, pre-post test research design was established to measure the effectiveness of the materials and program. Both summative and formative evaluation procedures were employed in the evaluation design (see Evaluation section, pages 9-123).

Pretesting of both project and comparison groups was completed in September, 1978, while posttesting for both groups was completed in May, 1979.

PEER FACILITATION

Peer facilitation was an integral part of Project S.P.I.C.E. Educable mentally handicapped students were paired with non-handicapped students for facilitation purposes. Facilitation was done with respect to both academic areas and career education activities. Each facilitation session was supervised by an adult, either a teacher or staff member. Project personnel trained students prior to facilitation sessions. Training consisted of informing students of the purpose, procedures to follow, and expected behavior in a facilitating session. Peer facilitation consisted of one-to-one and small group (up to ten students) sessions. Both EMH and non-handicapped students participated as facilitators, depending upon the skills required for completion of an activity. Facilitation logs were kept and showed a total of 404 hours of interaction during the year.

Peer facilitation was considered to be a successful strategy of Project S.P.I.C.E. The EMH students discovered a learning situation in which they could participate successfully and the non-handicapped students learned acceptance of the EMH student as part of their peer group. Both groups of students learned to work and achieve together.

COMMUNITY CAREER CONSULTANTS/ON-SITE VISITATIONS

In September, 1978, a community career consultant resource campaign was launched by the project coordinator and resource teacher. The Daytona Beach Area Chamber of Commerce provided a list of its membership roster to project personnel for the purpose of contacting prospective community career consultants. A total of fifty-seven (57) contacts were completed. Of this number, forty-six (46) community resource people actually participated in the project, either through in-class visitations or on-site visitations. There were nine in-class visitations by community career consultants and forty (40) on-site visitations by students. Each student in the project (a total of 99) participated in at least one on-site visitation.

Prior to a visitation, either on or off campus, the community career consultants were oriented to the purpose of the project and given suggestions regarding information to share with, and questions to expect from, the students.

Training sessions were conducted for all project students prior to the visitations. As part of the training session, students established a "Code of Ethics" to be observed during all SPICE activities. In addition the students established a dress code to be observed for on-site visits. All project students participated in the development of both codes.

Questions and procedures were developed for use in interviewing consultants. Students were also trained in the use of cassette recorders and cameras for their on-site visitation.

Certificates of participation and letters of appreciation were presented to all community career consultants. The consultants were enthusiastic about, and very supportive of, Project S.P.I.C.E. They expressed approval of having small groups of students (no more than four) visit their place of business and were pleased with the effectiveness of the visits. As the students shadowed an employee, the consultants saw the capabilities of the EMH student and expressed approval of them as potential employees.

STUDENT PROJECTS

Since it was impractical to schedule every student involved in the project for each on-site visit, students who made the on-site visitations were held responsible for sharing their information with the rest of the students. Student projects were planned and implemented to convey thorough and accurate information learned during the on-site visit. Student projects included an occupational profile on careers at the business site; posters or charts containing photographs, brochures, application forms, time cards, etc.; slide photographs; and verbal narration.

All students who participated in an on-site visit were required to contribute to the presentation, either during preparation or delivery, before the project group. As a result, project students learned effective communication methods, and have demonstrated an increase in self confidence and positive attitudes toward self and others.

PARENTAL INVOLVEMENT

Parents of SPICE students were supportive of the concept and implementation of the program. They expressed approval of the delivery system components utilized by SPICE to present career information and to emphasize the importance of learning upon the future.

Parents became involved in the project in the following ways:

1. Community career consultants
2. Advisors to their child, particularly in units on self-awareness, economics and decision-making.
3. Reinforcing learning in the home.

WEEKLY PLANNING ACTIVITIES

Two types of weekly planning activities were organized: planning by teachers and project personnel, and large group presentations for all project students. The teachers' planning time was utilized to update and organize activities for the coming week. Planning time was also used for discussion of student needs for peer facilitation and sharing of ideas, materials and implementation techniques. Large group presentation time for students was used for activities related to student performance objectives, films, consultant visitations, student on-site visit presentations, and training sessions.

PARTICIPANT SUMMARY

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CAREER EDUCATION PROGRAM

PARTICIPANT SUMMARY

NOTE. Participants include those DIRECTLY served by the project or, in the case of most parents and persons in the business/labor/industry community, who actively assist in project implementation. "Actively assist" includes efforts such as serving as resource persons, serving on Advisory Groups, providing work experience, etc.

FORM APPROVED
OMB NO. 51-R1187

NUMBER OF PARTICIPANTS (see NOTE above) WHO ARE	RACE/ETHNICITY (all Participants including Handicapped, Gifted and Talented, and Low Income)						OF THE TOTAL (column (6)) NUMBER WHO ARE			OF THE TOTAL (column (6)) NUMBER WHO ARE	
	AMERICAN INDIAN OR ALASKAN NATIVE (1)	ASIAN OR PACIFIC ISLANDER (2)	BLACK/ NEGRO (3)	CAUCASIAN/ WHITE (4)	HISPANIC (5)	TOTAL (sum of columns (1) through (5)) (6)	HANDICAPPED (7)	GIFTED AND TALENTED (8)	LOW INCOME (9)	MALE (10)	FEMALE (11)
STUDENTS											
ELEMENTARY (K-6)											
MIDDLE/JUNIOR HIGH (7-9)			47	52			40			46	53
SENIOR HIGH (10-12)											
2-YEAR COLLEGE											
4-YEAR COLLEGE											
ADULTS (non-matriculated)											
SUB-TOTAL			47	52			40			46	53
EDUCATIONAL PERSONNEL											
TEACHERS			1	4							
COUNSELORS											
ADMINISTRATORS			1	4							
MEMBERS OF THE BUSINESS/ LABOR/ INDUSTRY COMMUNITY			1	45							
PARENTS			15	35							
OTHER (specify)											
TOTAL			65	140							

OE FORM 467, 2/76

EVALUATION

PROJECT SPICE: 1978-1979

FORMATIVE EVALUATION INPUT

Submitted by:

John E. Bailey III, Ph.D.

Rome Lower School
Rome, Georgia
June 1979

FORMATIVE EVALUATION

Formative Data Collection - Formative data collection instruments included:

1) Learner Activities - this measured student perceptions of their learning activities in both project and non-project curriculum areas.
2) Learner Processes - this measured student perceptions of the learning processes that they experienced. Again this instrument covered learning processes expected to be major project components as well as processes not expected to contribute to project goals.
3) Student Attitudes - this short instrument provided on-going information about student attitudes toward school as a whole, their teachers, their classwork and, for project students, SPICE activities.
4) Parent Needs Assessment Form - This instrument measured parent perceptions of the importance of various curriculum objectives in terms of the degree to which the school should be responsible for student learning of that area.

These instruments were administered to students and parents, respectively, in accordance with the schedule contained in the project proposal except that administration

did not begin until late November due to the delays that were experienced in pre-testing and initiation of project activities. Questionaires were delivered to project and non-project students through the students' teachers. In non-project schools the instruments were collected from teachers and delivered to the project staff by building administrators. In the project school this function was performed by the project staff.

Results of Formative Data Collection - The results of the three student instruments are presented in Tables 1 - 3. In each case these results are the cumulative percentage. These percentages were obtained by dividing the number of students responding positively to each question by the total number of respondents. Table 1 contains this data for the student Learning Activities instrument. The percentages of the total students participating in project data collection activities who responded to this instrument are as follows:

Project - EMH	83.5%
- Regular	62.2%
Non-Project - EMH	96.6%
- Regular	90.3%

The Learning process instrument and the student attitude instruments were administered together as a joint form. As a result the percentage of students responding to these two instruments is identical.

Those percentages are as follows:

Project - EMH	75.2%
- Regular	63.8%
Non-project - EMH	93.3%
- Regular	93.2%

The differences in response rate between groups probably reflects differences in administration support of collection procedures rather than student factors. However, this is an impression rather than hard data.

The parent Needs Assessment form was sent to parents. Return rates are as follows:

Project - EMH	20.5%
- Regular	13.5%
Non-project - EMH	28.0%
- Regular	12.5%

Obviously these response rates are so low that this data needs to be interpreted cautiously.

Discussion of Formative Results - It does not require detailed analysis of this data to see that project activities did not radically alter the learning environments of the project students when compared to that of their counterparts in the non-project schools. There can be legitimate questions about the accuracy of the formative instruments. They were specially constructed for this project and thus lack a long history of valid use. Furthermore, they rely on student perceptions

which may differ from those of informed adults. Against this, the data was remarkably consistent across administrations. Moreover, the global impressions that come from the data are supported both by informal observations by project staff and outside evaluation personnel. In looking at the process and activity data it must also be remembered that the non-project schools are not strict controls with a total or controlled absence of activities related to project objectives. The schools are in a district that has had a career education office with an active director for several years. The impact of these efforts is most clearly observable in the control EMH student activity data. One teacher of these students has a strong committment to and active program in career education. This has been confirmed by conversations with the teacher and observation of his class. Thus informal observations sustain interpretations of the formative data. Overall it must be clearly remembered that comparisons of project results with those of non-project schools are between types of programs differing in objectives and levels of emphasis rather than between a program and its absence.

The data also helps quantify and compare the degree to which project activities were implemented. Conversations with project staff indicate that important elements of the project's proposed methodology were not fully implemented. The most important lack of

implementation occurred in the area of independent study materials. These materials were intended to carry the primary instructional load for the personal finance, job application, work habits and occupational choice objectives. This effort was a total failure. Attempts to remedy this through integrating elements of these materials in the regular school curriculum had some success. This success had the most impact on the EMH students. For the regular students it was limited to a few students and a very limited segment of the materials contained in the objectives. As mentioned in another section of this report peer tutoring was ended in February. Since the project started later than anticipated this meant that tutoring occurred during approximately one half of the project. Finally parental participation was limited as evidenced by the very low return rate of the project's need assessment forms.

In contrast the on-site and career consultant visits went generally as planned. Student reports on these visits to the total group also went generally as planned. However time for these reports was limited due to shift in the use of the time available for group meetings. In an attempt to make up for the problems with the independent study methods, group meetings were used, especially in the latter part of the year, to cover material contained in the independent study booklets. Project staff members

also shifted use of their time. They spent considerable time teaching in EMH classrooms. Again this was intended to make up for problems with implementation of the independent study materials. Thus, overall, there were a number of difficulties with project implementation. The project as implemented differed in considerable amount from that originally conceived.

The implementation of the project including implementation problems impacted regular and EMH students differently. In general the EMH students were the beneficiaries of these differences. The EMH students went on more on-site visits due to the way the goups for these trips were set-up. The biggest differences resulted from the fact that the EMH students were generally concentrated in a few classes. This meant that when there was a group meeting, the whole class went. Thus the EMH students were not missing a class. By contrast the regular students were missing class when they attended group meetings. This resulted in lower attendance at group meetings. Given the small number of on-site visits (1 or 2) for regular students, the group meetings were their only contact with the project. If they did not attend, they got nothing. Intact classes also meant that it was reasonable for project staff to go into the EMH classes and provide instruction relevant to project objectives. In contrast the regular students were in classes largely

composed of students not participating in the project. This made use of project personnel to instruct in these classes a very ineffective delivery sytem.

In light of this discussion it is fairly easy to understand the results of the summative testing. The EMH students simply got considerably more instruction relevant to project objectives. This is clearly evident from the student reports on the activity checklist. This finding is somewhat difficult to see because of the high level of reported activity from the non-project EMH students. However, as earlier discussion has pointed out, the high level of activities among these students is the result of a very committed teacher rather than the normal level in all EMH classrooms. Of course this data does not explain why the project EMH students were more successful across all activity and process measures. There is no evidence that the project EMH students got more instruction relevant to the project's globally defined objectives. The most reasonable explanation, although it is speculative, is that the instruction was geared to the project's specific objectives and thus was more effective in terms of the tests designed to measure those specific objectives. This interpretation is strengthened by a review of the pre and post-test means contained in Appendix A of the summative evaluation. In general, the project EMH students have achieved significant differences because

of greater gains. By contrast the equivalence of the project and non-project students occurs because neither made gains. This supports the validity of the low levels of activity reported by the students in the activity checklists.

Suggested Changes - The problems that the project experienced are the result of a misconception of the potential roles and benefits that the project might deliver to the regular students in the participating school. A misconception, it might be added, which was shared in by this author. The misconception was that all students in the participating school would benefit from the project. Stated in this way, it is on its face absurd. Nevertheless the project's design reflected, albeit implicitly, this idea. The regular students were selected at random from the school's student population. This insures that the participating students are representative of the school's student population, but that is relatively trivial since the school's population is not a random sample of a wider population. Thus nothing is gained in terms of the representativeness of the regular student sample. Nor can it reasonably be asserted that the gains with the regular students would be representative of gains made by all students in the participating school. In fact only a few students received the project treatment and only those could reasonably be expected to make any gains. However, the result of this random assignment was quite serious as has been discussed earlier.

A more accurate conception of the benefits to regular students is that any benefits accrue to a limited number of regular students. The small scale of the project, or any likely replication, makes it impossible to provide services to a full school of regular students. Even if it were possible, it would be a misapplication of funds since they are primarily geared to providing benefits to EMH students. The regular students are expected to benefit at least to the extent of enjoying themselves in the sense that they are expected to enjoy any elective classes.

Any attempts to build on the formula contained in this project should be based on obtaining volunteer teachers of classes composed of regular students. Or a class or classes could be set-up which regular students could choose on an elective basis with these classes intended to help regular students gain the skills contained in the project's objectives.

Either of these approaches would have the following advantages:

1) There would be no conflict between classwork and project objectives.
2) Work assigned to meet project objectives would receive support of the classroom teacher.
3) It would not be necessary to terminate peer tutoring due to scheduling conflicts.

4) Attendance at project meetings, etc., would be assured.

In short the project could have been implemented essentially as planned. This approach would also assure that there could be no conflicts between project activities and any classwork associated with basic skills learning.

The benefits of such an approach are not postulates. This method is that employed in the elementary school project that preceeded this one. In that project the regular students who participated shared in the benefits along with the EMH students.

TABLE 1

	EMH		REGULAR	
	Project	Non-Project	Project	Non-Project
LANGUAGE	61	59	62	58
READING	76	59	31	45
BASIC MATH	76	80	53	39
ADVANCED MATH	17	5	33	36
SCIENCE	47	22	57	47
CAREER AWARENESS	37	53	13	9
EDUCATIONAL REQUIREMENTS	31	39	12	9
ECONOMICS	30	35	11	13
PERSONAL FINANCE	25	42	19	13
JOB APPLICATION	34	44	9	10
WORK HABITS	41	39	5	9
VALUES	22	28	2	10
CHOOSE	36	42	5	12
HISTORY	39	22	25	29
GEOGRAPHY	25	10	35	37
LITERATURE	16	12	15	26
ART	28	41	33	31
MUSIC	19	14	22	32
PHYSICAL EDUCATION	54	56	73	73
BEGINNING COMPETENCIES	34	28	10	10

TABLE 2
PROCESS

	EMH		REGULAR	
	Project	Non-Project	Project	Non-Project
LECTURE	78	71	70	69
CLASS DISCUSSION	37	50	62	58
SMALL GROUP W/TEACHER	44	47	8	10
SMALL GROUP W/O TEACHER	30	46	32	22
INDIVIDUAL W/O TEACHER	32	47	13	15
INDEPENDENT	65	54	77	81
TEST	38	66	61	59
A-V	18	46	26	25
INSTRUCTIONAL GAME	18	41	18	15
6P PROJECT	24	35	16	14
INDIVIDUAL PROJECT	23	48	19	26
FIELD TRIP	16	9	4	2
CLASS PRESENTATION	17	24	9	7
OUTSIDE SPEAKER	28	11	18	14
TUTORED	24	41	12	11
PARENTS	32	47	40	21

TABLE 3

		EMH		REGULAR	
		Project	Non-Project	Project	Non-Project
S	FUN AT SCHOOL	66	69	58	68
C	MATERIAL	62	67	60	63
T	BOSSY TEACHER	41	43	31	25
SP	WASTING TIME - SPICE	40	-	10	-
T	TEACHER GREAT	53	56	43	43
SP	LIKE SPICE	56	-	83	-
S	SCHOOL BORING	49	31	39	34
C	CLASSWORK	41	40	23	26
	SCHOOL	58	69	59	67
	CLASS	60	63	68	68
	TEACHER	55	56	56	66
	SPICE	58	-	86	-

TABLE 4

	EMH		REGULAR	
	Project	Non-Project	Project	Non-Project
INTERPERSONAL SKILLS	2.3	1.7	2.6	2.5
VALUING	1.8	2.1	2.5	2.3
DECISION-MAKING	2.4	1.7	2.5	2.4
LANGUAGE ARTS	2.8	2.9	2.8	3.0
READING	2.8	3.0	2.9	3.0
SELF-DIRECTED LEARNING	2.0	1.9	2.6	2.9
MATHEMATICS	2.1	2.7	3.0	3.0
MUSIC	1.3	2.0	1.6	1.5
ART	1.5	1.6	1.5	1.4
HEALTH	2.4	2.6	2.5	2.3
SCIENTIFIC METHODS	1.3	2.3	1.6	2.1
SCIENCE FACTS	1.5	2.0	1.5	2.5
LITERATURE	2.1	2.0	2.0	3.0
WRITTEN COMMUNICATION	2.3	2.6	2.8	3.0
P OCCUPATIONAL KNOWLEDGE	2.0	2.0	2.1	1.9
P CAREER PLANNING	1.9	2.6	2.4	1.9
SPORTS	1.8	2.6	1.8	1.9
PHYSICAL EDUCATION	1.3	2.1	1.8	2.4
P ECONOMICS	1.4	1.0	2.4	2.3
RELIGION	1.9	1.9	1.8	1.3
P PERSONAL FINANCE	2.4	2.0	2.3	2.3
GOVERNMENT	1.6	1.4	1.6	2.5
ELECTORAL PROCESS	1.6	1.6	1.3	2.3
WORLD POLITICS	1.3	2.3	1.8	2.1
HISTORY	1.9	2.4	1.6	2.5
ETHICS	1.6	2.1	2.1	2.3
CONSUMER ECONOMICS	2.3	1.9	2.3	2.9
COMMUNITY RESOURCES	1.8	1.9	2.1	1.9
SEX EDUCATION	2.1	1.7	1.6	1.9
FOREIGN LANGUAGE	1.0	1.9	1.3	2.4
P SALABLE SKILLS	1.6	1.7	2.1	2.0
P EMPLOYABILITY SKILLS	1.9	1.9	2.3	2.4
P RIGHTS AND LAW	2.5	2.1	2.4	2.0
P WORK HABITS	2.5	2.1	2.5	2.6
AVERAGE PROJECT RELATED OBJECTIVES	2.3	2.2	2.0	1.9

A Summative Evaluation of the

Special Partnership In Career Education Project

(SPICE)

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33

Table of Contents

		Page
I	Introduction	1
II	Evaluation Design	2
	A. Participants	3
	B. Instrumentation	3
	C. Analyses	5
	D. Results of pre-program analyses	7
III	Summary of Program Effects	8
IV	Conclusions	14
V	Analyses of Program Effects	15
	A. Primary Effects	16
	B. Secondary Effects	48
VI	Interview Data	65
VII	Appendicies	68

I Introduction

During the 1978-79 academic school year the Volusia County Schools with funding from the U.S. Office of Education developed and implemented a career education program called the Special Partnership In Career Education (SPICE) project. This program was designed to increase career awareness and exploration among junior high school students especially the educable mentally handicapped. Students participating in the SPICE program: went on site visits to work settings in the community, heard guest speakers discuss their careers and met with the project staff in large and small groups to discuss career opportunities and requirements. Details regarding these activities are discussed in the program documentation reports. The purpose of this report on the other hand is to identify and discuss the effects of those activities on SPICE participants. The evaluation however was not based on an experimental design so causal relationships between the program activities and student outcomes concerning careers should not be inferred. These relationships however can still provide a basis for tentatively judging the success of SPICE. Additional replications would be needed before the effects of the program could be judged confidently.

In presenting the evaluation findings this report is organized in seven sections. Following this introductory section, a brief description of the evaluation design is provided. In that section: a description of the students who participated in the evaluation, the instrumentation used, the analysis strategies adopted and the results of some pretreatment comparisons are discussed.

Section III presents a summary of the evaluation results, identifying those objectives which were met and those which were not. Numerical values were kept to a minimum in this section in order to concentrate on the meaning of the results. The following section presents the conclusions of the evaluation. Sections III and IV are presented early in the report so that readers interested only in the results and conclusions need not be bothered with the details of the anlayses. For those interested in the specifics, Section V presents in considerable detail the analyses of the outcomes on which the conclusions were based. Section VI presents the results of a series of interviews with individuals who had experience with the project. Finally for those interested in the numerical results the appencicies in Section VII provides the data on which the results presented in Sections III and V are based.

II Evaluation Design

The Special Partnership In Career Education (SPICE) project was a program designed to increase career awareness and exploration among junior high school students. Its primary target population was educable mentally handicapped (EMH) students but non-handicapped students also participated and played an important role in implementing some of the project's activities. Eight specific goals and fifteen program objectives were identified for all project participants and a sixteenth objective was added for the non-EMH students concerning working with handicapped students. (See Table 2 in Section III for a list of project goals and objectives.) In September 1978, the implementation of the program

began at the Holly Hill Junior High School.

A. Participants

Program participants included all of the 45 EMH students enrolled in the school and 75 non-EMH students selected at random from grades 7, 8 and 9. To determine whether the project was successful in achieving its stated goals and objectives, a group of similar handicapped and a similar group of non-handicapped students were located within the school district and designated as comparison groups. The EMH comparison group consisted of 27 students which included all of the remaining educable mentally handicapped students in the district. The comparison group for the non-handicapped consisted of 73 students selected at random from the Campbell Junior High School. Over the academic year some of the students from each of the four groups were lost as a result of families moving away from the community. Table 1 summarizes a comparison of descriptive characteristics of the four groups on which the evaluation was based. In general it appears that the two groups of EMH students were similar and the two groups of non-EMH students were similar at least for the variables considered here.

B. Instrumentation

Measuring the effects of the program was achieved by using three different insturment packages. First to assess cognitive effects the California Achievement Test (CAT) was administered to all students. EMH students took either level 11 or 12 of the test depending on their previous test performances. The non-EMH students in both groups took level [illegible] of the CAT. Second

Table 1

Summary statistics of descriptive characteristics of the evaluation participants.

	EMH STUDENTS			NON-EMH STUDENTS	
	SPICE	CONTROL		SPICE	CONTROL
N	39	25		59	64
Boys	17	17		30	27
Girls	22	8		29	37
Age	14	14		13.9	13.5
			Grade: 7	18	21
			8	21	22
			9	19	21

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to assess student knowledge of and attitude toward careers, a ten scale instrument package developed by the Division of Vocational Education in the State of Florida Department of Education called Educational Progress In Careers (EPIC) was used. The scales were originally developed for non-EMH junior high school students so it was necessary to read the questions on the scales to the EMH students. The package had been used with non-EMH students in other school districts in Florida and some average scores per scale were available. Finally to assess the specific objectives of the program eleven different scales were developed by the project and the internal evaluator. A total of 24 scales were administered to all EMH students and 25 scales were given to all of the non-handicapped students. These tests were administered twice to each student, once before

the program activities began and a second time when the project activities were terminated.

C. Analyses

The data resulting from all of the instrument packages used were analyzed in several ways. First, since program and comparison groups were not created through random assignment, group performances on the pretest data were compared to determine the extent to which the two groups of EMH students were similar and the extent to which the two groups of non-handicapped students were similar. These comparisons were made using a multivariate analysis of variance technique for an overall comparison of the vectors of group means on the pretest data. These analyses were then followed-up with a series of univariate analyses to identify specific variables on which the groups differed. Following the program period a second series of analyses were computed to determine whether the program had achieved its objectives. Again a multivariate analysis of variance was computed to compare the vector of mean gains of the project students with the vector of mean gains of the comparison groups. In follow-up analyses, two different univariate procedures were used with each of the outcomes considered. One univeriate procedure was an analysis of variance with a gain (posttest - pretest) score as the dependent variable. The second univariate procedure used was analysis of covariance (ANCOVA) with the dependent variable being the posttest and the covariate being the pretest score. The multiple analysis strategy was adopted because of the methodological problems associated with the nonequivalent control group design on which this evaluation

was based. When comparison groups are initially equivalent the ANCOVA procedure provides a more sensitive test of group differences than gain scores and therefore a more desirable analysis strategy. When there are initial differences however ANCOVA underadjusts for those differences and the gain score procedure is the more desirable approach. Whether the initial analysis indicates significant differences or not the interpretation of these analyses must be made cautiously. Without random assignment of individuals to program or comparison groups, there may always be additional variables that affect the dependent variable which were not taken into consideration in the analyses. Thus there is no completely satisfactory procedure for making the two groups equivalent. The conclusions of the evaluation based on the above analysis strategies must therfore be viewed as being tentatitive. Additional replications of the program and their evaluations would be needed before causal relationships between program activities and outcomes could be inferred.

In addition to the major comparisons between project and control groups, gain score analyses were also computed within the project groups between boys and girls and between students who made one, two or no site visits.

Throughout of the analyses the criteria for statistical significance was set at .10 for the probability of a Type I error (saying there is a difference when there actually are none). While this is slightly higher than many research studies have used it was felt that because of the nature of the program being evaluated and the population of students involved the relatively high alpha level was appropriate. Readers who do not share this

view may reconsider the conclusions in light of the significant levels reported for each analysis.

D. Results of pre-program analyses

A multivariate analysis of variance was computed to compare the vector of pretest means for the SPICE EMH students with the vector of means for the EMH comparison group. The resulting F value using the Hotelling-Lawley Trace criterion was equal to 2.84 which is significant at $p > .0018$. These results indicate that the two vectors of means were not equivalent. In follow-up univariate analyses on each of the 24 pretests, significant differences between the two groups were identified on nine scales. Six of these analyses indicated SPICE students scored significantly higher than the control group and three analyses indicated the comparison group scored significantly higher than the project group. The specific variables on which these differences were found are discussed in Section V and also presented in the appendicies. These results may be interpreted as indicating that the two groups of EMH students were fairly similar but not equivalent.

A similar series of analyses were conducted with the two groups of non-EMH students. The multivariate analysis of variance resulted in a F value, using the Hotelling-Lawly Trace criterion, of 2.35 which is significant at $p > .0014$. These results indicate a significant difference between the vector of pretest means for the SPICE students and the vector of means for the control group. The follow-up univariate analyses indicated significant differencees on only 5 of the 25 pretests. One of the significant differences favored the SPICE group and

four of the significant differences favored the control group. These results may be interpreted as indicating that the two groups were initially very similar but not equivalent.

III Summary of Program Effects

Following the termination of SPICE activities, all students participating in the evaluation were re-administered all of the scales in the instrument packages. Gain scores were then calculated and a multivariate analysis of variance was computed comparing the vector of mean gains for the SPICE participants with the vector of mean gains for the comparison groups. For the comparison of the two groups of EMH students the computed F value equalled 3.48 using the Hotelling-Lawley Trace criterion which is significant at $p > .0009$. These results indicated a significant difference between the two groups of EMH students. A similar multivariate analysis of variance was computed to compare the two groups of non-handicapped students. For this analysis the computed F value equalled 3.62 using the Hotelling-Lawley Trace criterion which is significant at $p > .0001$. These results indicated that the vector of mean gains for the SPICE participants was significantly different than the vector of mean gains obtained by the comparison group. To identify which variables the groups differed, a series of univariate analyses on each scale used was computed. A summary of these analyses and their results are presented in Table 2 and Table 3. Table 2 presents the results of those outcomes which were identified as specific objectives of the program. Table 3 presents the results of the additional outcomes examined which may have been affected by the program activities.

Table 2

Summary of program effects on stated goals and objectives.

	EMH		NON-EMH	
	SPICE	CONTROL	SPICE	CONTROL
Goal 1 Attitude and Appreciation				
Project student will improve his attitude toward working with varying groups of persons.	No Significant Differences		*	
The project students will develop positive attitudes toward students with learning problems. (Non-EMH students)				*
Goal 2 Beginning Competency (Skill Awareness)				
The project student will match a list of beginning competencies necessary for twelve occupations with a list of places where skills may be obtained	*		No Significant Differences	
The project student will increase his use of the following sources of information in communicating about competencies needed for initial employment: parents, relatives friends etc.	*		No Significant Differences	
Goal 3 Career Awareness				
The project student will demonstrate inscreased knowledge of the variety of occupations found in the world of work	No Significant Differences		No Significant Differences	
Goal 4 Decision Making				
The project student will list 1) three major types of job information to collect before deciding on an occupation and give an example of each type 2) three things that he can do besides reading about jobs to get information about an occupation and 3) two printed sources of occupational information.	*		No Significant Differences	

Table 2 (continued)

	EMH		NON-EMH	
	SPICE	CONTROL	SPICE	CONTROL
The project student will list personal skills which contribute to success in an occupation of his choice.	*		*	
Goal 5 Economic Awareness				
The project student will be able to match the following terms with definitions: gross profit, net income etc.	*		No Significant Differences	
The project student will be able to list: 1) three services that are paid for by taxes, 2) five good shopping rules, 3) four dangers of buying on credit, 5) identify five types of insurance and 6) identify high and low interest loan services.	*		*	
Goal 6 Educational Awareness				
From a list of thirty-six worker titles, the project student will designate the ten who need the most preparation for employment.	*		No Significant Differences	
From a list of thirty-six worker titles, the project student will designate the ten who need the least preparation.	*		No Significant Differences	
Goal 7 Employability Skills				
Project students will 1) list four things that could happen to him if he is absent from work, 2) state what he should do if he is absent or late for work, 3) state what he should do if he makes a mistake on the job 4) list four things that may happen to someone who steals goods from work and 5) list three things to do if he finds a safety hazard at work	*		No Significant Differences	

Table 2 (continued)

	EMH		NON-EMH	
	SPICE	CONTROL	SPICE	CONTROL
The project student will record phone messages	*		*	
Goal 8 Self Awareness				
The project student will show increased self-awareness by stating: 1) abilities, 2) values, 3) activities in which he can participate, 4) personal characteristics and 5) context ie. social and familial.	*		No Significant Differences	
Given a list of fifteen personal goals, the project student will indicate which are short-range and which are long-range.	No Significant Differences		*	
The project student will state his ability to obtain career information.	*		No Significant Differences	

Table 3

Summary of program secondary effects

	EMH		NON-EMH	
Effect on:	SPICE	CONTROL	SPICE	CONTROL
Reading Vocabulary	No Significant Differences		No Significant Differences	
Reading Comprehension	No Significant Differences		*	
Math Computations	No Significant Differences		*	
Math Concepts and Applications	No Significant Differences		*	
Attitude toward School	*		No Significant Differences	
Career Planning Activities	No Significant Differences		*	
Knowledge about a Career	*		*	
Knowledge of general career information	*		*	
Considering Courses for Careers	*		*	

A more detailed discussion of each of the outcomes examined is presented in section V.

With the handicapped students the project succeeded in achieving 12 of the 15 stated objectives. On the remaining three objectives no significant differences were found. For the nine secondary effects examined the program had a positive effect on SPICE students on four of the outcomes and no effect on the remaining five outcomes. The comparison group students did not significantly out-perform the project students on any of the 24 scales used. Further analyses of the SPICE student data indicated very few significant differences between boys and girls and very few significant differences between students who made one or two site visits.

The results of the analyses involving non-handicapped students indicated that the SPICE program may have had a significant positive effect on 5 of the 16 stated program objectives, a negative effect on one of the program objectives and no effect on the remaining 10 objectives. The one possible negative effect may however be misleading. The negative effect concerned attitudes toward handicapped students but during interviews with non-handicapped students a negative attitude toward EMH students was never expressed. Rather these students indicated that on site visits they could not distinguish EMH students from non-EMH students. On the secondary effects the project may have had a positive effect on three of the nine outcomes, a negative effect on four of the outcomes and no effect on two of the outcomes. The most disturbing results were found in the possibility that participation in the program may have had a

negative effect on cognitive skills like reading comprehension, math computation and math concepts. But before drawing these conclusions it would be necessary to first examine in greater detail the regular school programs of these students. Such data was not available for thes evaluation but should be considered in any future evaluation of SPICE type programs. Further analyses of SPICE student data indicated very few differences between boys and girls and very few differences between students who made one, two or no site visits.

Finally in a series of interviews with an administrator, a counselor, several teachers and both EMH and non-EMH students, extensive support for the program was expressed. Site visits to the work settings, the small group meetings and the project staff were repeatedly praised by those interviewed. The only negative comments came from the students who wanted to have the opportunity to choose the site visits they made and wanted to make the visits with specific friends.

IV Conclusions

From all of the data collected and analyzed it must be concluded that the SPICE project was extremely successful in achieving its stated goals and objectives with the educable mentally handicapped students. Almost all of their objectives were met and several additional positive effects of the program were also identified. Those who were interviewed praised the program and the handicapped students expressed a great deal of pleasure regarding their experiences with the program. The

activities which made up the SPICE program appear to increase career awareness and exploration among the educable mentally handicapped.

With the non-handicapped students SPICE was not as successful. Some success was achieved but the majority of the objectives were not met. However the fact that the control group out-performed the SPICE students on only one of the project's stated objectives may indicate that the experiences were not harmful. These results may indicate that the use of non-handicapped students as implementors of program activities with handicapped students may be a useful instructional strategy. Finally the apparent negative effect of the program on student cognitive skills may be of some concern but further investigation into this area is needed. The SPICE program may therefore have small positive effects on increasing student career awareness and exploration but the program probably should not be adopted extensively without further study.

V Analyses of Program Effects

The effects of program activities on student outcomes have been classified into two categories: primary effects and secondary effects. The primary effects were those which the project had specifically stated were of greatest interest to the program. Sixteen of the 25 scales used in the evaluation were designed to measure those primary effects. The secondary effects were those outcomes which were of interest but specific program objectives regarding them were never stated. Nine of the 25 scales assessed these outcomes. This section is divided into two

parts: first the primary effects of the program are examined and second the secondary effects are considered.

A. Primary effects

Goal 1 Attitudes and Appreciation Element

"The students will become aware that a job well done is rewarded by his own satisfaction as well as by recognition from others."

Objective A:

"The project student will improve his attitude toward working with varying groups of persons."

Assessment

To determine the extent to which this objective was met students responded to a three item questionnaire developed by the project staff called Working With Others. On this scale students indicated whether they would like to work with different people on a group project. Scores on this scale could range from 0 to 3 with a high score indicating the student's interest in working with others.

Results - EMH students

Initially both the SPICE students and the control group scored high on this scale with the average scores equalling 2.05 and 2.12 respectively. These pretest scores did not differ significantly. At the end of the program period the average score of both groups declined. SPICE students lost an average of .56 points and the control group lost an average of .44 points. Both the gain score analysis of variance and the analysis of covariance indicated that the two groups did not differ significantly in the

extent to which they changed over the program period. These results indicate that Objective A was not met. A decline in the average score of SPICE students on this scale should not be interpreted as a negative effect associated with the program. The finding that both groups declined about the same amount indicates that the initial scores were probably an inflated index of these students' interest in working with others.

Further analyses of student changes within the SPICE program indicated no significant differences between those students who made one site visit and those who made two site visits. Additionally boys did not differ significantly from girls in the extent to which they responded to the assessment scale. Finally there was no significant relationship ($r = -.009$) between changes on this scale and the number of large group meeting attended by the SPICE students

Data supporting the above conclusions are provided in Appendix A.

Results - Non-EMH students

Non-EMH students scored lower on the Working With Others scale than did the EMH students. Prior to the beginning of the program period students in the SPICE program had an average score of 1.22 while the control group had an average of 1.59. The difference in these initial scores was statistically significant. The control group indicated a greater willingness to work with others than did SPICE students. Following the program period however the SPICE students gained and average of .39 points while the control group lost .03 points. The gain score analysis

indicated a significant difference in the amount that the two groups changed. The analysis of covariance however indicated that the difference was not statistically significant. In situations where groups differ significantly on a pretest measure, ANCOVA is known to underadjust for the initial differences. Since this was the case in the present analysis it is concluded that the gain score analysis is likely to be more appropriate and to conclude that the program may have had some effect on increasing student interest in working with others.

Further analyses of the data involving SPICE students indicated that changes on the assessment scale did not significantly differ between boys and girls and students who made one, two or no site visits were not significantly different.

Data supporting the above conclusions are provided in Appendix A

A second objective was identified under Goal 1 for the non-EMH students:

Objective B: " The project students will develop positive attitudes toward students with learning problems."

Assessment

This objective was measured with a 14 point scale developed by the project staff called Attitudes About Learning Problems. Students were asked to indicate whether they agreed or disagreed with 14 statements regarding educable mentally handicapped students. The scores could range from 0 to 14 with a high score indicating a positive attitude toward EMH students.

Results - Non-EMH students

Initially the SPICE group had an average score of 7.20 and the control group had an average of 7.86 on the assessment scale. The difference between thes average scores was not statistically significant. Following the program period the average score of the SPICE students dropped .40 points and the control group gained .11 points. The gain score analysis indicated that the difference in the changes made by the two groups was not statistically significant. The analysis of covariance however indicated that the difference was statistically significant. In situations where initial differences are not significant the analysis of covariance procedure provides a more sensitive comparison of two groups. Since in the present analysis the initial differences were not significant the ANCOVA results are likely to be more appropriate. These results indicate that participation in the SPICE activities may have reduced positive attitudes toward EMH students. This conclusion however is tentative since the two analysis procedures did not agree with each other.

Further analyses of the SPICE student data indicated that boys and girls were not significantly different in the extent to which they changed over the program period and students who made one, two or no site visits were not significantly different.

Data supporting the above conclusions are provided in Appendix B.

Goal 2 Beginning Competency (Skill Awareness) Element

"The student will develop the ability to know where skill training may be learned."

Objective C:

"The project student will match a list of beginning competencies necessary for twelve occupations with a list of places where the skills may be obtained."

Assessment

The extent to which Objective C was met was determined by student performance on a 12 point scale developed by the project staff called Sources of Training. This instrument lists twelve occupations and asks the student to indicate the most likely source of training for each skill listed. One point was awarded for each correct answer.

Results - EMH students

EMH students participating in the SPICE program answered an average of 2.05 items correctly on the assessement scale while the control group answered an average of 1.96 items correctly before the program began. The difference in the two groups' performances was not statistically significant. At the end of the program SPICE students answered 1.11 more items correctly and the control group answered an average of .40 more items correctly. The gain score analysis indicated that the difference in student gains was not statistically significant. The analysis of covariance however indicated that the difference in test performance was statistically significant. As noted earlier in situations where there are no initial differences ANCOVA is a more sensitive test than the gain score approach. In the present

case there were no initial differences so the ANCOVA results may be the more appropriate technique. These results indicate that the program may have increased student knowledge of appropriate sources of training beyond what they would have learned without SPICE. Objective C therefore was met with the EMH students.

Further analyses of the SPICE student data indicated no significant differences between gains achieved by boys and girls. And students who made one site visit did not differ significantly from students who went on two site visits. Finally there was no relationship ($r = .11$) between gains in student knowledge of sources of training and the number of large group meetings attended.

Data supporting the above conclusions are provided in Appendix C.

Results - Non-EMH students

Prior to the introduction of the program SPICE students averaged 2.58 correct answers and the control group averaged 2.80 correct responses. The difference in the performances of the two groups was not statistically significant. After the program period the SPICE students answered an average of 1.17 more items correctly and the control group answered 1.14 more items correctly. Both the gain score analysis and the analysis of covariance procedures indicated that the two groups did not differ significantly in the extent to which they changed over the program period. These results indicate that the program probably did not significantly increase student knowledge regarding sources of training beyond what they would likely have learned without the program. Objective C was therefore not met with the non-EMH students.

Additional analyses of the SPICE student data indicated no

significant differences between boys and girls and no significant differences between students who went on one, two or no site visits.

Data supporting the above conclusions are provided in Appendix C.

Goal 2 had a second objective for both the EMH students and the non-EMH students:

Objective D:

> "The project student will increase his use of the following sources of information in communicating about competencies needed for initial employment: parents, relatives etc."

Assessment

To determine whether this objective was met students were asked to complete a 14 item questionnaire developed by the Division of Vocational Education in the State of Florida Department of Education as part of the Educational Progress in Careers (EPIC) instrument package. Students were asked to indicate the frequency in which they talked about careers in various settings. Scores on this scale could range from 14 if the respondent indicated that he talked about careers almostly daily in all 14 settings to 70 if the respondent indicated he never talked about careers. On previous administrations of this scale, non-EMH students in other districts averaged per district from 50.7 to 56.7.

Results - EMH students

Prior to the program period SPICE students had as an average a score of 59.46 and the control group averaged 51.68 points. The difference in average responses was statistically significant. Following the program period the average score of the SPICE students was reduced by 11.21 points and the control group's average

score was reduced by 1.48 points on the average. The gain score analysis procedure indicated that the SPICE students changed significantly more than the control group but the analysis of covariance indicated no significant differences. Since there were initial differences on the pretest scores the gain score analysis is probably more appropriate. The results therefore indicate that the program probably had an effect on the extent to which the students talked about careers.

Further analyses with the SPICE student data indicated that boys reduced their average scores by 5.7 points and girls reduced their average scores by 15.6 points. The difference in the number of points the two groups changed was statistically significant. But there were no significant differences between students who went on one or two site visits. Finally there was no relationship (r= .047) between the gains in the frequency of communication about careers and the number of large group meetings attended.

Data supporting the above conclusions are provided in Appendix D.

Results - Non-EMH students

Non-EMH students who participated in SPICE scored on the average 51.44 points prior to the introduction of the program. The control group on the other hand had an average score of 54.4. The difference in performances was statistically significant. Following the program the SPICE group reduced their average score by 3.11 points while the control group reduced their average score by .1 points. The gain score analysis indicated that the difference to which the two groups increased the frequency of talking about

careers was not statistically significant. The analysis of covariance however indicated a statistically significant difference. Since the two groups were significantly different on the pretest, the gain score analysis was probably more appropriate. The results therefore indicate that the program probably did not increase the frequency of non-EMH students talking about careers beyond what would likely have happened without SPICE. Objective D probably was not met with the non-EMH students.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between those students who made one, two or no site visits.

Data supporting these results are presented in Appendix D.

Goal 3 Career Awareness Element

"The student will explore the variety of occupations found in the world of work."

Objective E:

"The project student will demonstrate increased knowledge of the variety of occupations found in the world of work."

Assessment

The assessment of this objective was based on student performance on a scale developed by the Division of Vocational Education in the State of Florida Department of Education as part of the EPIC instrument package called Worker Titles. For this scale students were given 10 minutes to list as many worker titles as they knew. One point was awarded for each worker title listed. Scores could range from 0 to an unlimited number.

Previous administrations of this scale with non-EMH students in other districts resulted in scores averaging between 38.2 to 49.9.

Results - EMH students

Initially the SPICE students could on the average name 10 worker titles while the control group could provide an average of 9.68 worker titles. The difference in the number of worker titles listed was not statistically significant. Following the program period SPICE students could on the average provide 2.56 more names than their initial performance. The control group could provide an average of .8 more names than their initial performance. Neither the gain score analysis or the analysis of covariance procedure indicated that the difference in the gains obtained by the two groups was statistically significant. These results indicate that the program probably did not increase the SPICE students' knowledge of worker titles beyond that which they would probably have learned without SPICE. Objective E was therefore not met.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between the students who made one or two site visits. Finally there was a significant relationship (r=.4318) between the gain in the number of worker titles provided and the number of large group meeting the SPICE students attended.

Data supporting the above conclusions are provided in Appendix E.

Results -Non-EMH students

Prior to the introduction of the SPICE program non-EMH students in the program provided an average of 23.53 worker names and the control group listed an average of 26.33 worker titles.

The difference in the number of worker title provided by the two groups was not statistically significant. On the posttest the SPICE students provided an average of 5.96 more worker titles than on their pretests. The control group listed 5.70 more worker titles on the posttest than the pretest. Both the gain score analysis and the analysis of covariance indicated that the difference in gains achieved by the two groups was not statistically significant. With the non-EMH students Objective E was not met. SPICE students did not learn more worker titles than they probably would have learned without the program.

Further analyses with the SPICE student data indicated that boys and girls did not differ significantly in the number of worker titles provided. There were however significant differences between students who made one or two or no site visits. Students who made one site visit named on the average 7.88 more names on their posttest, students who made two site visits named an average of 5.87 more names and students who made no site visits listed on the average 3.56 fewer names.

Data supporting the above conclusions are provided in Appendix E.

Goal 4 Decision Making Element

"The student will make informative decisions."

Objective F

"The project student will list 1) three major types of job information to collect before deciding on an occupation and give an example of each type 2) three things that he can do besides reading about jobs to get information about an occupation and 3) two printed sources of occupational information."

Assessment

Objective F was assessed using a three item scale developed by the project staff called Choosing an Occupation. Each item corresponded to one of the three parts of Objective F. Students were asked to choose the correct responses among several alternatives. For each correct choice students were awarded one point. The scores on this scale could range from 0 to 8.

Results - EMH students

Prior to the introduction of the program, students in the SPICE program scored on the average 5.18 points and the control group scored an average of 4.48. The difference in the average performances of the two groups was not statistically significant. Following the program, SPICE students increased their scores by .77 points and the control group increased their scores by .68 points. The gain score analysis indicated that the difference in the amount gained by the two groups was not statistically significant. The analysis of covariance procedure however indicated a statistical difference. In this analysis the pretest score was shown to be non-significant predictor of posttest performance. Because the covariate was not significant this analysis was equivalent to an analysis that completely disregarded the pretest scores and compared only the posttest performances. The result was a statistical difference. Since the pretest difference was not statistically significant and since the posttest performance appears to be unrelated to the pretest performance, it is concluded that the most appropriate analysis would be a one-way analysis of variance on the posttest alone. The results of that analysis indicated statistical significance (F=5.99 p .017).

From this analysis it is concluded that the program probably had an effect on students in answering questions regarding choosing an occupation.

Further analyses of SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was a significant negative correlation (r= -.21) between gains on the assessment scale and the number of large group meetings attended by the SPICE students.

Data supporting the above conclusions are provided in Appendix F.

Results - Non-EMH students

The non-EMH students scored on the average 5.88 on the choosing an occupation scale prior to the introduction of the program. The control group had an average score of 6.09 on the same scale. The initial difference in the test scores was not statistically significant. Following the program period the SPICE students on the average scored .58 points higher on the posttest and the control group scored .36 points higher. Both the gain score analysis and the analysis of covariance indicated that the two groups were not significantly different. It is concluded then that for the non-EMH students Objective F was not met. The SPICE students probably did not gain additional information concerning choosing an occupation beyond what they would likely have learned without the program.

Further analyses of the SPICE student data indicated that boys and girls did not differ significantly and students who made one, two or no site visits were not significantly different.

Data supporting the above conclusions are provided in Appendix F.

Goal 4 had an additional objective for both the EMH and the non-EMH students:

Objective G

> "The project student will list personal skills which contribute to success in an occupation of his choice."

Assessment

Objective G was assessed using a three item scale developed by the project staff called Career Educational and Skills Requirements. On this scale students were asked to identify an occupation, state the educational requirements and the skill requirements. One point was awarded for each appropriate response. Scores on the scale could range from 0 to 3.

Results - EMH students

Prior to the introduction of the program, SPICE students scored on the average 2.33 points on the assessment scale while the control group scored on the average 2.52 points. The initial difference in the test performances was not statistically significant. Following the SPICE project the program students gained an average of .07 points while the control group lost an average of .84 points. Both the gain score analysis and the analysis of covariance indicated that the two groups were significantly different. Examining these results show that while the SPICE students did not chang the control group appears to have lost considerable information. After discussing these results with the project staff it was learned that at the pretest administration of the scale the scoring of the responses was considerably more lenient

than at the posttest scoring. Thus the pretest performance was likely an inflated estimate of what the students knew about educational and skill requirements for an occupation. It is therefore concluded that for the EMH students Objective G was met. The program probably increased student knowledge regarding educational and skill requirements for specific occupations.

Further analyses of the SPICE student data indicated no significant differences in the performances of boys and girls. There was a significant difference between those students who made one or two site visits. Students who made one site visit increased their scores by .294 points while those students who made two site visits lost .47 points. No explanation for this result can be provided. Finally there was no significant relationship (r=-.04) between gains on the assessment scale and the number of large group meetings attended.

Data supporting the above conclusions are presented in Appendix G.

Results - Non-EMH students

Initially SPICE students had an average score on the assessment scale of 1.86 and the control group had an average score of 2.08. The initial difference in test performance was not statistically significant. Following the SPICE project, program students scored on the average .46 points higher than their pretest and the control group scored .14 points lower. Both the gain score analysis and ANCOVA indicated a statistically significant difference between the two groups. It is concluded that for the non-EMH students objective G was met. The SPICE experience probably increased their knowledge regarding educational and skill requirements

beyond what would probably have been learned without the program.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between those students who made one, two or no site visits.

Data supporting the above conclusions are provided in Appendix G.

Goal 5 Economic Awareness Element

"The student will demonstrate increased knowledge of A) the economic system and B) personal finances."

Objective H:

"The project student will be able to match the following terms with definitions: gross profit, net income, stock certificate etc."

Assessment

The degree to which Objective H was met was based on student performance on a 20 item true-false test developed by the Division of Vocational Education in the State of Florida Department of education as part of the EPIC instrument package. The scale is called Knowledge of the Economic System. One point was awarded for each correct response. On previous administrations of the scale with non-EMH students average scores per district ranged from 14.2 to 16.1.

Results EMH students

Prior to the SPICE program, project students answered on the average 11.33 items correctly and the control group averaged 10.76 correct answers. The initial difference on this test was not statistically significant. After the program period SPICE students raised their scores on the average 3.2 points and the

control group raised their scores by 1.24 points. Both gain scores and analysis of covariance indicated that the SPICE group gained significantly more than the control group. It is concluded then that the program probably did increase student knowledge of the economic system beyond what they would have likely learned without SPICE. Objective H was therefore met for the EMH students.

Further analyses of the SPICE student data indicated no significant differences between boys and girls. Students who made one site visit however gained an average of 3.87 points while students who made two site visits gained 1.90 points. The difference between these two groups was statistically significant. Finally the correlation between gains on the assessment scale and the number of large group meetings attend was not statistically significant (r=.21).

Data supporting the above conclusions are provided in Appendix H.

Results - Non-EMH students

Prior to the introduction of the SPICE project, program students scored on the average 15.1 points on the assessment scale and the control group scored 15.03. The initial difference was not statistically significant. Following the program period, project students lost .12 points on the scale and the control group gained .52 points. Neither the gain score analysis or the ANCOVA indicated that the two groups were significantly different. Thses results indicate that for the non-EMH students Objective H was not met. Students in SPICE did not learn significantly more about the economic system than students who did not participate in the program.

Further analyses with the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are presented in Appendix H.

Goal 5 had a second objective for both the EMH and non-EMH students:

Objective I:

> "The project student will be able to list: 1) three services that are paid for by taxes, 2) five good shopping rules, 3) four dangers of buying on credit, 5) identify five types of insurance and 6) identify high and low interest loan services."

Assessment

To assess Objective I a 6 item scale was developed by the project staff called Personal Finances. For this scale there was one item for each of the six parts of Objective I. One point was awarded for each correct response with total scores ranging from 0 to 23.

Results - EMH students

Initially project students scored 14.53 points on the assessment scale and the control group scored 14.44 points. The small difference in average test performance was not statistically significant. Following the SPICE project, program students gained 1.87 points while the control group did not change at all. Both the gain score analysis and ANCOVA indicated that the SPICE students gained significantly more than the control group. Objective I was therefore met with the EMH students. Students who participated in the SPICE program probably learned significantly more about

personal finances than what they probably would have learned without the program.

Further analyses of the SPICE student data indicated no significant differences between boys and girls. Students who made one site visit however gained 3.35 points on the assessment scale while those who made two site visits gained .789 points on the scale. The difference in the gains achieved by the two groups was statistically significant. Finally there was no relationship (r=.08) between gains on the assessment scale and the number of large group meeting attended.

Data supporting the above conclusions are presented in Appendix I.

Results - Non-EMH students

Initially there were no significant differences between the SPICE students and the control group on the assessment scale prior to the introduction of the program. SPICE students scored on the average 16.98 points while the control group scored an average of 16.89 points. Following the program period SPICE students gained 1.24 points and the control group gained .08 points. Both gain score analysis and ANCOVA indicated that the two groups were significantly different. Objective I was therefore met for the non-EMH students. Students participating in the SPICE program probably learned significantly more about personal finances as a result of the project experiences than they probably would have learned without it.

Further analyses of the SPICE student data indicated that boys gained an average of 2.40 points and girls gained and average of .03 points. The difference in the amount the two groups gained

was statistically significant. There were no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are presented in Appendix I.

Goal 6 Educational Awareness Element

"The student will demonstrate increased knowledge of the level of education and training needed for a variety of occupations."

Objective J:

"From a list of thirty-six worker titles, the project student will designate the ten who need the most preparation for employment."

Assessment

To assess Objective J students were asked to select the ten occupational titles which required the most preparation for employment from a sist of 36 occupational titles. This scale was part of the EPIC instrument package. Scores could range from 0 to 10. On previous administrations of the scale, non-EMH students in other districts averaged per district scores ranging from 5.5 to 6.8.

Results - EMH students

The EMH students who participated in the project were able to identify prior to the beginning of the program an average of 5.81 occupational titles needing the most preparation. The control group could identify an average of 5.24 occupational titles. The difference in the two scores was not statistically significant. Following the program, SPICE students could identify correctly 2.13 more titles and the control group identified .8 more titles. Both the gain score analysis and ANCOVA indicated that the difference

between the groups was statistically significant. Objective J was therefore met for the EMH students. Project students probably learned more about required educational and training preparation than they probably would have learned without SPICE.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was no relationship (r=-.019) between gains on the assessment scale and the number of large group meetings attended.

Data supporting the above conclusions are presented in Appendix J.

Results - Non-EMH students

Prior to the introduction of the project SPICE students scored on the average 5.47 points on the assessment scale. The control group students averaged 6.15 points on the same scale. The difference in initial test performance was statistically significant. Following the program period SPICE students increased their scores an average of .34 points and the control group increased their scores by .05 points. Both the gain score analysis and ANCOVA indicated that the difference in performance by the two groups was not statistically significant. Objective J was therefore not met for the non-EMH students. SPICE students probably did not learn significantly more about educational and skill preparation requirements during the project period than they probably would have learned without the experience.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are presented in Appendix J.

Goal 6 had a second objective for both the EMH and the non-EMH students.

Objective K:

> "From a list of thirty-six worker titles, the project student will designate the ten who need the least preparation."

Assessment

To assess Objective K students were provided a list of 36 worker titles and asked to identify the ten occupations which required the least amount of preparation. This scale was part of the EPIC instrument package. Scores on the scale could range from 0 to 10. Performances of non-EMH students from several other school districts indicated that average scores per district ranged from 4.8 to 5.8.

Results - EMH students

Prior to the introduction of SPICE, projcet students on the average had a score of 2.57 and the control group had an average score of 2.36 of the assessment scale. The initial difference in test performance was not statistically significant. Following the program period, SPICE students gained an average of 1.39 points and the control group gained an average of .52 points. Both the gain score analysis and the analysis of covariance indicated that the two groups were significantly different. Objective K was therefore met with the EMH students. Project students probably learned more about educational and training preparation than they would have likely learned without the program. SPICE EMH students on the posttest almost reached the range of

test performance achieved by non-EMH students in the other school districts.

Further analyses with the SPICE student data indicated no significant differences between boys and girls. Students who made one site visit gained on the average 1.19 points on the assessment scale while students who made two site visits gained 2.35 points. The difference in student performance was statistically significant. Finally there was no relationship (r= .048) between gains on the assessment scale and the number of large group meetings attended by SPICE students

Data supporting the above conclusions are presented in Appendix K.

Results - Non-EMH students

The non-EMH students who participated in the project scored on the average 6.48 points on the assessment scale before the introduction of the program. The control group scored on the average 5.32 points. The initial difference was not statistically significant. The SPICE students however scored considerably higher than other junior high school students who had previously taken the scale. Following the program, the SPICE group lost an average of 1.13 points and the control group lost an average of .02 points. The difference in test performance was not statistically significant. These results indicate that the initial performance of SPICE students was probably an inflated estimate of their knowledge of educational and training preparation requirements. Thus the decline in test performance on the posttest. Objective K was probably not met with the non-EMH students. Students participating in the project probably did not learn significantly more information about educational

training and preparation requirements than what they probably would have learned without the project.

Further analyses with the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are presented in Appendix K.

Goal 7 Employability Skills Element

> "The student will develop characteristics and skills which contribute to career success."

Objective L:

> "Project students will 1) list four things that could happen to him if he absent from work, 2) state what he should do if he is absent or late for work, 3) state what he should do if he makes a mistake on the job, 4) list four things that may happen to someone who steals goods from work and 5) list three things to do if he finds a safety hazard at work."

Assessment

Objective L was assessed using a scale developed by the project staff called Working Habits. This scale consisted of five items which corresponded to the five parts of Objective L. Scores on the scale could range from 0 to 17 with a high score indicating good work habits.

Results - EMH students

Prior to the introduction of the program period the SPICE students scored on the average 11.45 points on the assessment scale and the control group scored 11.24 points. The initial difference on the scale was not statistically significant. Following the

program period SPICE students increased their test scores by 2.5 points and the control group increased their scores by .8 points. Both the gain score analysis and the analysis of covariance indicated that the difference between the two groups was statisticically significant. Objective L was therefore met with the EMH students. The program probably had an effect on student knowledge of work habits.

Further analyses of the SPICE student data indicated that boys did not differ significantly from girls. Students who made one site visit gained on the average 2.94 points while students who made two site visits gained an average of 1.47 points. The difference in gains was statistically significant. Finally there was a significant negative relationship (r=-.37) between the gain on the assessment scale and the number of large group meetings attended.

Data supporting the above conclusions are presented in Appendix L.

Results - Non-EMH students

On the pretest SPICE students scored on the average 13.10 points on the assessment scale and the control group scored 13.17 points. The initial difference in pretest scores was not statistically significant. Following the program period SPICE students gained .83 points and the control group gained .60 points. Both the gain score analysis and ANCOVA indicated that the difference between the two groups was not statistically significant. Objective L was therefore not met with the non-EMH students. The non-EMH students probably did not learn significantly more about work habits than they would have likely learned without the program.

Further analyses of the SPICE student data indicated no

significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conslusions are presented in Appendix L.

Goal 7 had an additional objective for both the EMH and the non-EMH students.

Objective M:

"The project student will record phone messages."

Assessment

To assess this objective students were asked to record a simulated phone call. Students were evaluated on the basis of the information they recorded. Seven categories of information were provided and students were awarded one point for each correctly recorded category.

Results - EMH students

Initially SPICE students recorded an average of 2.23 categories correctly and the control group recorded 1.32 categories correctly. The difference in the number of categories correctly recorded was statistically significant. Following the SPICE program students who participated in the program correctly recorded an average of 1.9 more categories and the control group recorded and average of .2 more categories correctly. Both the gain score approach and the ANCOVA indicated that the difference in performance of the two groups was statistically significant. Objective M was therefore met for the EMH students. Project students probably learned significantly more about recording telephone messages than they probably would have learned without the program.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was no relationship (r=.11) between gains on the assessment scale and the number of large group meeting the students attended.

Results - Non-EMH students

Non-EMH students who participated in the project initially recorded an average of 4.39 categories correctly and the control group correctly recorded 4.63 categories. The initial difference in test performance was not statistically significant. Following the project period SPICE students gained an average of 1.02 categories correctly recorded and the control group lost .3 categories. Both the gain score analysis and the ANCOVA indicated that the difference between the two groups was statistically significant. Objective M was therefore met for the non-EMH students. Project students probably learned more about recording telephone messages than they probably would have learned without SPICE.

Further analyses with the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who went on one, two or no site visits.

Data supporting the above conclusions are provided in Appendix M.

Goal 8 Self-Awareness Element

"The student will develop an increased knowledge of how his interests and abilities relate to his future."

Objective N:

"The project student will show increased self-awareness by stating: 1)abilities, 2) values, 3) activities in which he can participate 4) personal characteristics and 5) context

Assessment

Objective N was assessed using a scale developed by the project staff called Tell Me About Yourself. This scale consisted of 5 open ended questions in which students were asked to describe themselves in terms of five areas identified in the objective. The scoring of this scale was based on the number of descriptive words the students supplied for each category. Total scores on the scale could range from 0 to an almost limitless number. A time limit of five minutes was given to all students.

Results - EMH students

Prior to the introduction of the program, students in the project scored an average of 7.07 descriptive words about themselves while the control group provided an average of 8.44 words. The difference in the number of descriptive words listed by the two groups was not statistically significant. Following the program period SPICE students increased the number of descriptive words provided by 7.33 while the control group increased the number of descriptive words by 2.46. Both the gain score analysis and the analysis of covariance procedure indicated that the performance of the two groups was significantly different. Objective N was therefore met for the EMH students. Students who participated in the program probably gained increased self-awareness beyond what they probably would have gained if they had not participated in SPICE.

Further analyses of the SPICE data indicated that boys listed on the average 9.63 more descriptive words on the posttest than on the pretest and girls listed 5.64 more descriptive words about themselves on the posttest than the pretest. The difference

in the changes between the two groups was statistically significant. Comparisons between students who made one and two site visits indicated no significant differences. Finally there was no relationship (r=.14) between changes on the assessment scale and the number of large group meeting attended.

Data supporting the above conclusion are provided in Appendix N.

Results - Non-EMH students

Prior to the introduction of the program, SPICE students listed an average of 10.92 descriptive words on the assessment scale. The control group listed an average of 9.36 descriptive words about themselves. The difference in the number of descriptive words provided was not statistically significant. Following the program period SPICE students listed an average of .05 more descriptive words and the control group listed 1.02 more descriptive words on the posttest than the pretest. Both the gain score analysis and the ANCOVA procedure indicated that the two groups were not significantly different. Objective N was therefore not met for the non-EMH students. The results indicate that the program probably did not affect student self-awareness to any greater degree than would have likely been the case without SPICE.

Further analyses of the SPICE student data indicated no significant differences between students who made one, two or no site visits. Boys increased the number of descriptive words listed by 1.97 while girls decreased the number of descriptive words listed by 1.93. The difference between the two groups was statistically significant.

Data supporting the above conclusions are provided in Appendix N.

A second objective under Goal 8 was:

Objective O:

> "Given a list of fifteen personal goals, the project student will indicate which are short-range and which are long-range."

Assessment

To assess this objective, students were asked to indicate whether each of 15 goal statements were long-range of short-range goals. This scale was developed by the project staff and had a possible range of 0 to 15.

Results - EMH students

The pretest results indicated that SPICE students could distinguish between long and short term goals on the average in 12 of the statements. The control group was able to make the same distinguish in 10.36 of the statements. The difference in the initial performances was statistically significant. Following the program period SPICE students improved their test performance by .37 points while the control group lost .12 points. The gain score procedure indicated that the difference between the groups was not statistically significant. The ANCOVA results however indicated statistical significance. Because there was a significant difference initially favoring the SPICE group, the ANCOVA results are probably inappropriate since under this situation ANCOVA underadjusts for the initial differences. It is therefore concluded that Objective O was probably not met with the EMH students. Participation in the program probably did not affect student ability to distinguish between short and long term

goals beyond what they probably would have learned without the program.

Further analyses with the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was a significant negative relationship (r=-.45) between gains on the assessment scale and the number of large group meetings attended by SPICE students.

Data supporting the above conclusions are provided in Appendix O.

Results - Non-EMH students

On the pretest SPICE students could on the average correctly distinguish between long and short range goals in 11.78 of the statements and the control group could make the correct distinction in 12.80 of the statements. The difference in the performances of the two groups was statistically significant. Following the SPICE program, project students could make 1.14 additional distinctions and the control group made .11 fewer distinctions on the posttest administration of the assessment scale. Both the gain score analysis and ANCOVA indicated that the difference in performance of the two groups was statistically significant. Objective O was therefore met for the non-EMH students. Project students probably increased their ability to distinguish long and short range goals beyond what they probably would have gained without SPICE.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are presented in Appendix O.

Goal 8 had a third major objective for both the EMH and non-EMH students:

Objective P:

"The project student will state his abilities to obtain career information."

Assessment

To assess Objective P a ten item questionnaire was developed by the project staff called Ability to Obtain Career Information. This scale listed ten statements concerning ways of obtaining information about careers. Students were asked whether they felt they could obtain information about careers by each of the 10 methods listed. Scores on the scale could range from 0 to 30.

Results - EMH students

On the pretest SPICE students scored on the average 23.18 points while the control group scored an average of 25.24 points. The difference in initial performance was statistically significant. Following the program period SPICE students gained on the average 1.56 points and the control group lost 2.28 points. Both the gain score analysis and ANCOVA indicated that the difference between the two groups was statistically significant. The fact that the control group lost so many point over the two testing periods indicates that the initial performance was probably an overestimate of the student's confidence in obtaining career information. These results indicate that the SPICE program probably did increase the student's confidence in obtaining career information beyond what they probably would have gained without the program. Objective P was therefore met for the EMH students.

Further analyses with the SPICE student data indicated no

significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was no relationship (r=.11) between gains on the assessment scale and the number of large group meeting attended by the SPICE students.

Data supporting the above conclusions are provided in Appendix P.

Results - Non-EMH students

Initially project participants scored on the average 24.02 points on the assessment scale while the control group scored an average of 23.64 points. The initial difference on the scale was not statistically significant. Following the program period SPICE students gained .81 points and the control group gained .22 points. Both the gain score analysis and the analysis of covariance indicated that the difference between the two groups was not statistically significant. Objective P was therefore not met for the non-EMH students. Project students probably did not increase their confidence in obtaining career information beyond what they probably would have gained without SPICE.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are provided in Appendix P.

B. Secondary Effects

In addition to the effects of the stated goals and objectives of the SPICE program, secondary effects of the project were also

of interest. To examine these effects nine additional scales were administered to all of the project and control group students. In this section the secondary effects of the program are examined. The format which is used is patterned after the previous section, but rather than beginning the discussion with a statement of the goal, this section begins with a statement regarding the effect of interest.

Effect on Reading Vocabulary

Assessment

To assess whether the program had any side effect on reading vocabulary the California Achievement Test levels 11 and 13 were administered to the EMH students and level 18 was administered to all non-EMH students. The results on the Reading Vocabulary subscale are reported below in terms of scaled scores.

Results - EMH students

Initially SPICE students scored significantly higher than the control group on the assessment scale. SPICE students scored on the average 345.2 scaled points and the control group averaged 299.0 points. Following the program period SPICE students improved their scores by 16.1 points and the control group gained 21.3 points. The gain score analysis indicated that the difference in gains between the two groups not statistically significant. The ANCOVA analysis indicated that the difference between the groups was significant. Since the initial status of the two groups was not equal the gain score approach is probably the more appropriate analytic technique. It is therefore concluded that the program probably did not have any effect on reading vocabulary.

Further analyses with the SPICE student data indicated no significant differences between students who made one or two site visits, and no significant differences between boys and girls. Finally there was no relationship (r=-.11) between gains in the assessment scale and the number of large group meeting attended.

Data supporting the above conclusions are provided in Appendix Q.

Results - Non-EMH students

Initially the non-EMH students who participated in the program had a significantly lower score than the control group on the Reading Vocabulary subscale. SPICE students scored on the average 520.6 point and the control group scored 560.9 points. Following the program period the SPICE students had gained 12.9 scaled points and the control group gained 18.0 points. Both gain score analysis and ANCOVA indicated that the difference between the two groups was not statistically significant. For the non-EMH students it appears that the program had no effect on reading vocabulary.

Further analyses with the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are provided in Appendix Q.

Effect on Reading Comprehension Assessment

The Reading Comprehension subscale of the California Achievement Test was used to determine if the program had any effect on student

reading comprehension. Scores reported below and in the Appendix are terms of scaled scores.

Results - EMH students

Prior to the introduction of the program, SPICE students scored significantly higher than the control group on the reading comprehension subscale. SPICE students scored on the average 363.1 points while the control group averaged 321.1 points. Following the project period SPICE students gained 17.6 points and the control group gained 2.5 points. The gain score analysis indicated that the difference between the two groups was not statistically significant. The ANCOVA analysis indicated statistical significance but is probably inappropriate because of the initial group differences. It is concluded then that the program probably had no significant effect on reading comprehension for the EMH students.

Further analyses of the SPICE student data indicated that boys gained 30.38 points over the program period and girls gained and average of 5.82 points. The difference was statistically significant. There was also a significant difference between students who went on one or two site visits. Those students who made one site visit gained an average of 29.12 points and those who made two site visits gained 3.32 points. There maybe a negative effect associated with too many site visits but there is insufficient data to make such a conclusion. Finally there was no relationship ($r=.047$) between gains in reading comprehension and the number of large group meeting attended.

Data supporting the above conclusions are presented in Appendix R.

Results - Non-EMH students

Prior to the introduction of the program SPICE students scored an average of 534.0 points on the assessment scale and the control group scored 558.4 points. The initial difference was not statistically significant. On the posttest SPICE students lost an average of 6.8 points and the control group gained an average of 21.2 scaled points. Both the gain score analysis and the ANCOVA indicated that the difference between the two groups was statistically significant. The SPICE program may have had a negative effect on student reading comprehension skills.

Further analyses of the SPICE student data indicated no significant differences between boys and girls. Students who did not go on any site visits gained an average of 27.11 scaled points, students who made one site visit lost 4.30 points and students who made two site visits lost 40.27 points. These differences were statistically significant. It appears that there may have been a negative effect associated with the number of site visits a student made.

Data supporting the above conclusions are provided in Appendix R.

Effect on Math Computations

Assessment

The Math Computation subscale on the California Achievement Test was used to determine whether the program had any effect on math computation skills of the project students. Scores reported below and in the Appendix are in terms of scaled scores.

Results - EMH students

Initially the SPICE students and the control group scored

approximately the same on the assessment scale. SPICE students scored an average of 337.1 points and the control group averaged 316.4 points. Following the program period SPICE students gained an average of 10.7 points and the control group gained 12.9 points. Both the gain score analysis and the ANCOVA indicated that the two groups were not significantly different. The SPICE program therefore probably did not have any effect on improving student skills in math computations.

Further analyses of SPICE student data indicated that there were no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was no relationship (r=.17) between gains in math computation and the number of large group meetings attended.

Data supporting the above conclusions are provided in Appendix S

Results - Non-EMH students

Initially there were no significant differences between the SPICE and control group students on the assessment scale. SPICE students scored on the average 545.9 points and the control group scored an average of 550.4 points. On the posttest SPICE students gained 30.1 scaled points while the control group gained 45.1 points. The gain score analysis indicated no significant differences between the two groups but the ANCOVA analysis indicated that the difference was statistically significant. Since in this analysis there were no differences initially between the two groups the ANCOVA is a more powerful technique. It is concluded then the the control group gained significantly

more than the SPICE group. These results indicate that SPICE students may have been able to gain even more than the 30 points they had achieved if they did not take part in SPICE activities.

Further analyses of the SPICE student data indicated no significant differences between students who made one, two or no site visits and no significant differences between boys and girls.

Data supporting these conclusions are provided in Appendix S.

Effect on Math Concepts and Applications

Assessment

The effect on math concepts and applications was assessed using the subscale of the same name from the California Achievement Test. Scores reported below and in the appendix are in terms of scaled scores.

Results - EMH students

Prior to the introduction of the program SPICE students scored on the average 346.5 points and the control group averaged 334.1 points on the assessment scale. The initial difference between the two groups was not statistically significant. Following the program period the SPICE students gained 7.1 points and the control group lost .1 points. Both the gain score analysis and ANCOVA indicated that the difference between the two groups was not statistically significant. The program therefore probably did not have any effect on student skill in math concepts and applications.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was no relationship (r= -.18) between gains on the

assessment scale and the number of large group meetings attended.

Data supporting these conclusions are presented in Appendix T.

Results - Non-EMH students

Initially there were no significant differences between SPICE and control group students on the pretest. SPICE students scored on the average 521.2 points and the control group students averaged 526.0 points. On the posttest SPICE students gained 1.3 points while the control group gained 28.9 points. Both the gain score analysis and ANCOVA indicated that the difference between the two groups was statistically significant. The SPICE program may have had a negative effect on the project participants. But such a conclusion would be inappropriate with further data regarding the normal school programs these students were enrolled in.

Further analyses of the SPICE student data indicated that boys lost an average of 13.7 points and girls gained an average of 16.8 points. The difference between the two groups was statistically significant. Finally there were no significant differences between students who made one, two or no site visits.

Data supporting these conclusions are provided in Appendix T.

Effect on Attitudes Toward School Assessment

Although not a stated objective of the SPICE program it was thought that participation in the project would improve student attitudes toward school. To assess this outcome all students were administered a 15 item questionnare developed as part of the EPIC instrument package. Students were given 15 statements related to school and school activities. Respondents

were asked to indicate the extent to which they agreed with each statement. Responses were recorded on a five point likert-type scale. Scores on this scale could range from 15 to 75 with a low score indicating a positeve attitude. In previous administrations of this scale in other school districts in Florida, junior high school students averaged per district scores ranging from 31.4 to 34.7

Results - EMH students

Initially there were no significant differences between SPICE and control group students on the pretest of the assessment scale. SPICE students scored on the average 23.18 and the control group averaged 23.88 points. Following the project period SPICE students lost 3.05 points on the posttest and the control group lost 2.32 points. The loss for both groups indicated that attitudes toward school had improved. The difference in the improved attitudes was statistically significant under the ANCOVA analysis but non-significant with the gain score approach. Since there were no initial differences between the two groups on the pretest the ANCOVA analysis is probably more appropriate since it is a more powerful technique. The program therefore may have significantly affected student attitudes toward school. It might be further noted that both groups of students indicated a considerably more positive attitude toward than had students in other school districts.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one of two site visits. Finally there was no relationship (r=.05) between changes on the

assement scale and the number of large group meetings attended.

Results - Non-EIH students

Prior to the introduction of the project, SPICE students scored an average of 30.10 points on the assessment scale and the control group scored an average of 30.33 points on the instrument. The difference in attitudes was not statistically significant. Following the program period SPICE students gained 3.87 points and the control group gained 4.33 points. Both groups therefore became more negative toward school over the academic year. The difference between the two groups was not statistically significant. The program probably did not have an effect on student attitudes toward school. The final scores on the assessment scale was within the range of scores obtained with the scale in other school districts.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting these conclusions are presented in Appendix U.

Effect on Career Planning Activities

Assessment

A secondary effect which the program may have had concerned the frequency with which the students participated in career planning activities. To assess this outcome students were asked to respond to a 12 item questionnaire Career Planning Activities Checklist. This scale was developed as part of the EPIC instrument package. The checklist consisted of 12 activities involving career planning. Students were asked to indicate the frequency to which they participated in each activity. Responses were scored

for each item from 1 - almost daily to 5 - never. Scores on the scale could range from 12 to 60 with a low score indicating a high frequency of career planning. In previous administrations of this scale the average performance of non-EMH students per district ranged from 55.2 to 59.1.

Results - EMH students

Initially SPICE students scored on the pretest an average of 54.87 points and the control group scored an average of 44.96 points. The initial difference was statistically significant. On the posttest SPICE students gained .02 points while the control group gained 10.28 points. The gain score analysis indicated that the difference was statistically significant but ANCOVA analysis indicated non-significance. Since there were initial differences on the pretest the gain score analysis was probably more appropriate. SPICE stidents did not actually change over the academic year so the significance of the change was the result of the increased score of the control group. This increase was probably the result of the exceptionally low pretest data for the control group. It is therefore concluded that the program probably did not have any effect on student frequency of participation in career planning activities.

Further analyses of the SPICE student data indicated that boys' average scores increased by an average of 6.25 points while girls' average scores decreased by 4.68. The difference was statistically significant. Girls appear to have increased their career planning activities while boys appear to have decreased those activities. There were no significant differences between students who made one or two site visits. Finally there was no

relationship (r=.15) between changes on the assessment scale and the number of large group meetings attended.

Data supporting these conclusions are presented in Appendix V.

Results - Non-EMH students

Initially there were no significant differences on the pretest on the assessment scale between the project students and the control group. SPICE students averaged 56.56 points on the pretest and the control group averaged 59.14 points on the scale. Following the program SPICE students gained 2.21 points while the control group gained 3.73 points. Both groups therefore decreased their frequency of participating in career planning activities. The difference was statistically significant with the ANCOVA analysis but non-significant with the gain score approach. Since there were no differences on the pretest the ANCOVA results are probably more appropriate. While neither group increased the frequency of career planning activities the program may have limited the decrease in such activities.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting these results are provided in Appendix V.

Effect on Knowledge About a Career Assessment

An additional effect the program may have had on project participants was their knowledge about a career they were considering. To assess this outcome students were asked to complete a questionnaire which was developed as part of the EPIC instrument package called Knowledge About a Career. This scale listed 24 statements regarding

various aspects of any career. Students were asked to consider their tentative career choice and indicate how much they knew about their choice in terms of the 24 items on the scale. Responses were scored on a scale from 1 - just about all there is to know to 5 -nothing.. Total scores on the scale could range from 24 to 120. In previous administrations of the scale non-EMH students in other school districts had average scores ranging between 66.9 to 70.4.

Results - EMH students

Prior to the introduction of the SPICE program project students averaged 76.41 points on the assessment scale and the control group averaged 70.68 points. The initial difference on the pretest was not statistically significant. On the posttest SPICE students lost an average of 6.06 points while the control group gained 37.12 points. Both gain score analysis and ANCOVA indicated that the difference between the two groups was statistically significant. Project students appear to indicate greater knowledge about their tentative career choice than the control group. The program therefore may have had a positive effect on student knowledge about their tentative career choice.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who went on one or two site visists. Finally there was no relationship (r=.06) between changes on the assessment scale and the number of large group meeting attended.

Data supporting the above conclusions are provided in Appendix W.

Results - Non-EMH students

On the pretest SPICE students scored on the average 74.78 points

on the assessment scale and the control group averaged 71.81 points. The initial difference was not statistically significant. Following the project period SPICE students lost 5.54 points and the control group lost .03 points. A lower posttest score indicated an increase of knowledge about a career. The difference between the two groups was not statistically significant with the gain score analysis but was significant with the ANCOVA analysis. Since there were no significant differences on the pretest the ANCOVA results are probably more appropriate since it is a more powerful analysis. The project may therefore have had a positive effect on non-EMH students regarding increased knowledge about about a career.

Further analyses with SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are provided in Appendix W.

Effect on Knowledge of General Career Information Assessment

The program may have had an effect on the student's knowledge of general career information. To assess this outcome students were asked to respond to a 13 item questionnaire developed as part of the EPIC instrument package. The scale consisted of 13 statements regarding general information about careers and students were asked to indicate how much they felt they knew about each of the statements. Each response was scored on a five point scale with 1 - indicating knowing just about all there is to know to 5 - knowing nothing. A low score on the scale

indicated almost total knowledge about career information. On previous administrations of the scale non-EMH students from other school districts ranged on the average from 41.7 to 43.7.

Results - EMH students

On the pretest SPICE students scored on the average 58.71 points and the control group scored an average of 46.44 points. The initial difference was statistically significant. SPICE students initially had less knowledge about general career information than the control group. Following the project period SPICE students lost 4.28 points and the control group gained 5.24 points. The gain score analysis indicated that the difference between the two groups was statistically significant. ANCOVA indicated the two groups were not significantly different. The gain score results are probably more appropriate because of the initial differences on the pretest scores. The program therefore may have had an effect on increasing student knowledge about general career information.

Further analyses with the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one or two site visits. Finally there was no relationship (r=.17) between changes on the assessment scale and the number of large group meetings attended.

Data supporting these conclusions are provided in Appendix X.

Results - Non-EMH students

Initially SPICE students averaged 46.02 points and the control group averaged 42.34 points on the assessment scale. The difference between the groups was not statistically significant. Following the program period, SPICE students lost 5.58 points and the control

group gained .58 points. Both the gain score analysis and ANCOVA indicated the difference between the groups was statistically significant. These results indicate that the program may have had an effect on increasing student knowledge about general career information.

Further analyses of the SPICE student data indicated no significant differences between boys and girls and no significant differences between students who made one, two or no site visits.

Data supporting the above conclusions are presented in Appendix X.

Effect on Considering Courses for Careers

Assessment

The SPICE project had spent a considerable amount of time informing participants about educational requirements for various careers. It was therefore felt that the program may have had an effect on knowing what courses are required for different careers. To assess this outcome, students were given a 26 item test developed as part of the EPIC instrument package. The items on the scale consisted of occupational titles and students were asked to indicate what course they felt was needed most for each career. Scores could range on this scale from 0 to 26. On previous administrations of the scale with non-EMH students from other districts average scores per district ranged from 10.2 to 13.9.

Results - EMH students

On the pretest SPICE students averaged 6.97 correct responses and the control group averaged 5.24 correct responses. The initial difference was statistically significant. Following the program period SPICE students gained 5.49 points while the control group

gained 1.96 points. Both the gain score analysis and the ANCOVA analysis indicated the difference between the two groups was statistically significant. The program therefore may have had a positive effect on students' knowledge regarding courses necessary specific careers. Furthermore on the posttest SPICE students scored on the average well within the range of the performance of non-EMH students in other districts.

Further analyses of SPICE student data indicated that boys gained an average of 3.38 points and the girls gained an average of 7.05 points. The difference between the two groups was statistically significant. Girls may therefore have gained significantly more than boys as a result of their participation in the project. There were no dignificant differences however between students who made one or two site vilits. Finally there was no relationship (r=-.04) between the changes on the assessment scale and the number of large group meeting attended.

Data supporting the above conclusions are provided in Appendix Y.

Results - Non-EMH students

Prior to the introduction of the project, SPICE students scored on the average 10.59 points on the assessment scale while the control group scored 12.16 points. The initial difference was not statistically significant. On the posttest SPICE students lost 1.49 points and the control group lost .93 points. The gain score analysis indicated that the difference between the two groups was not statistically significant but ANCOVA indicated that the two groups were significantly different. Since the two groups did not differ on the pretest the ANCOVA results are probably more

appropriate since the technique is more sensitive than gain scores in identifying small group differences when there are no initial differences between the groups. The program may therefore have had an negative effect on non-EMH students who participated in the project. The performance of both groups on the posttest however was considerably lower than that of students in other school districts.

Further analyses of the SPICE student data indicated that boys lost an average of .17 points while girls lost an average of 2.90 points. The difference between the two groups was statistically significant. No significant differences were found between students who made one, two or no site visits.

VI Interview Data

So far this evaluation report has considered the results of objective data based on paper and pencil tests and questionnaires. While these measures provide the most reliable sources of information they nevertheless have some limitations. First, not all of the outcomes of interest could be measured directly by the instruments, second only the students who participated in the program answered the tests and questionnaires, third the instruments used did not allow respondents to supply their own answers but rather required participants to choose among the answers provided and finally showing significant student changes on these paper and pencil instruments could be difficult with the educable mentally handicapped students. (Estimates of the scales' reliability and validity for the EMH population has not been established. To overcome some of these limitations a series of interviews were conducted following the termination of the program activities.

This section presents the results of those interviews. Interview data also have serious limitations: those interviewed were not randomly selected, the data are based on perceptions and self-report which may lack reliability and validity and the interview schedule used was unstructured resulting in unsystematic responses and finally only a small number of individuals were interviewed. In spite of these limitations it was felt that the interview data could provide a complementing role to the test data by providing a different perspective of the program's quality and effectiveness.

Both students and adults were interviewed informally concerning their views of the program's strengths and weaknesses. The adults who commented on the program included an administrator, a counselor, and several teachers. All of these individuals were very positive in their praise of the program. Implementing the program and obtaining teacher cooperation was viewed as being only a minor problem. More importantly the added attention given the educable mentally handicapped students was very important and often cited as a major strength of the program. Several of those interviewed indicated a noticeable improvement in student grooming following their participation in SPICE activities and an increase in student self confidence as evidenced in increased student participation in normal classroom activities. As for the potential harmful effects of students missing classes to participate in program activities, several teachers indicated that they never materialized. Students were able to keep-up with their peers by simply doing their homework. Finally all of those interviewed praised the project staff for organizational skills, for their dedication to the program and for their helpfulness.

The only negative comment regarding the program came with regard to some of the guest speakers who spoke to the children. Some of those interviewed felt that the students could not understand what was being said. They suggested that in the future it would be useful to ask speakers to make their presentations in the most simplest terms possible.

The students interviewed were also very enthusiastic about the program. Both EMH and non-EMH students were interviewed and both groups gave similar responses. Students enjoyed the site visits the most but they also liked the small group meetings when they prepared their presentations on what they had seen at their site visits. These students made some comments which could be viewed as being negative. Their biggest complaint was in not having the freedom to choose which site visits they could make. A second aspect of the project they would liked changed involved the formation of the groups for the site visits. Students would have preferred making the site visits with specific friends rather than being assigned to groups with unfamiliar classmates. Finally students expressed displeasure with the number of tests they were asked to take. In spite of these negative comments, most students felt they would be interested in continuing with the project for another year and would recommend the program to their friends. Many students were disappointed that the program had to end so early in the school year and wanted it to continue until the last week of school in June.

In summary, it appears that almost everyone who had contact with the program saw it as being useful and would like to see it continued. Most of the adults perceived the program as being successful and the students enjoyed the program activities and found them interesti

VII Appendicies

The tables which follow present the numerical data on which the previous discussions and conclusions have been based. The appencicies have been labeled from A to Y to correspond to each of the 25 outcomes considered in section V. The means which are reported are based on the following sample sizes:

EMH students

	SPICE	CONTROL
Total sample N =	39	25
Boys	17	17
Girls	22	8
One site visit	17	
Two site visits	19	

Non-EMH students

Total sample N =	59	64
Boys	30	27
Girls	29	37
No site visits	9	
One site visit	33	
Two site visits	15	
Three site visits	2	

Occasionally the means are based on one or two fewer observations because of missing data.

For all ANCOVA analyses the assumption of within group homogeneity of regression slopes was tested. In the following tables a (*) indicates on which variables the assumption was violated. Violating this assumption does not invalidate the analysis but rather indicates an interaction between the covariate and the independent variable. In other words the effect of the program was not consistent across the levels of the covariate.

Appendix A

Working With Others

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	2.05	1.53	.09	.767	.042	.839	.17	.679
CONTROL	2.12	1.68						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-.56	-.46	F= .086	P> .7715

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-.53	-.53	F= .000	P >.9936

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
			F	p> F	F	p> F	F	p> F
SPICE	1.22	1.61	4.64	.033	3.74	.055	.54	.466
CONTROL	1.59	1.56						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.20	.59	F=1.23	P>.2719

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.78	.33	.13	F=.65	P>.53

Appendix B

Attitudes About Learning Problems

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	p	Gain Score Analysis F	p	ANCOVA Analysis F	p
SPICE	7.20	6.80	1.98	.162	.58	.447	3.14	.079
CONTROL	7.83	7.94						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	.10	-.93	F = .92 p .341

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	-.67	-.27	-.67	F = .059 p .942

Appendix C

Sources of Training

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	2.05	3.16	.07	.791	1.47	.230	3.51	.066
CONTROL	1.96	2.36						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	.94	1.18	F= .10 p> .760

	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	1.00	1.37	F= .22 p > .646

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	2.58	3.75	.55	.460	.00	.966	.21	.651
CONTROL								

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	1.17	1.17	F=.00 p>.993

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	.78	1.00	2.00	F = .91 p .410

195

Appendix D

Communication About Careers

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	59.46	48.25	7.13	.010	6.86	.011	1.70	.197
CONTROL	51.68	50.20						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-5.7	-15.6	F=4.20	p> .048

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-7.41	-14.26	F=1.86	p > .182

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	p> F	Gain Score Analysis F	p> F	ANCOVA * Analysis F	p> F
SPICE	51.44	48.33	2.94	.089	2.21	.140	9.09	.003
CONTROL	54.40	54.30						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-4.70	-4.79	F=.001	p> .982

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-11.78	-1.39	-6.20	F = 1.83	p .171

Appendix E

Worker Titles

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	10.00	12.56	.06	.815	1.09	.301	1.76	.189
CONTROL	9.68	10.48						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	1.20	3.82	F=1.46 p> .239

	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	2.00	4.53	F= 1.39 p > .251

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	23.53	29.49	2.58	.111	.032	.858	.13	.723
CONTROL	26.33	32.13						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	7.37	3.28	F=1.41 p>.240

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	-3.56	7.88	5.87	F = 2.71 p .076

Appendix F

Choosing an Occupation

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	5.18	5.95	1.98	.165	.02	.894	6.26	.015
CONTROL	4.48	5.16						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.75	.77	F= .00	p> .974

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.76	.79	F= .00	p > .972

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	5.88	6.46	.76	.386	.589	.444	.09	.765
CONTROL	6.09	6.44						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.50	.66	F= .09	p> .762

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	-.56	.76	1.07	F = 2.29 p .111

Appendix G

Career Educational and Skill Requirements

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA * Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	2.33	2.40	.52	.472	7.47	.008	8.79	.004
CONTROL	2.52	1.68						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.19	-.14	F=.45	p>.505

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.29	-.47	F=2.89	p>.098

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	1.86	2.32	1.47	.228	8.84	.004	8.10	.005
CONTROL	2.08	1.94						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.63	.28	F=1.27	p>.265

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.111	.303	.867	F = 1.46	p .241

Appendix H

Knowledge of Economic System

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCCVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	11.33	14.53	.40	.528	3.86	.054	10.07	.002
CONTROL	10.76	12.00						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	2.93	2.38	F=.18	p>.667

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	3.87	1.89	F=3.72	p > .089

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCCVA Analysis F	ANCCVA Analysis p> F
SPICE	15.10	14.98	.02	.893	1.29	.258	1.41	.238
CONTROL	15.03	15.55						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.17	-.93	F=1.44	p>.235

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-.78	-.06	-.20	F = .146	p .864

Appendix I

Personal Finances

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	14.53	16.40	.06	.807	9.10	.004	8.05	.006
CONTROL	14.44	14.44						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	2.81	1.18	F= 2.60 p>.116

	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	3.35	.79	F=7.08 p > .012

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	16.98	18.22	.03	.857	4.31	.040	5.54	.020
CONTROL	16.89	16.97						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	2.40	.03	F=8.28 p>.006

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	-.33	1.58	2.00	F = 1.56 p .220

111

Appendix J

Education and Training Preparation

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	5.81	7.94	.95	.334	4.50	.038	12.40	.001
CONTROL	5.24	6.04						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.88	2.33	F= .36	p> .553

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	1.63	2.53	F= 1.29	p > .264

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	5.47	5.81	2.97	.088	.424	.516	.32	.572
CONTROL	6.15	6.20						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.73	-.07	F=2.17	p>.147

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.67	.55	-.40	F = 1.18	p .313

Appendix K

Education and Training Preparation

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	2.57	4.46	.73	.395	8.19	.005	20.35	.000
CONTROL	2.36	2.88						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.63	1.84	F= .11	p> .738

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	1.19	2.35	F=3.53	p >.070

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	6.48	5.35	.46	.467	.42	.515	.01	.934
CONTROL	5.32	5.30						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-2.70	.52	F= 1.06	p> .312

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-.11	-2.24	.47	F = .278	p .759

113

Appendix L

Work Habits

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	11.45	13.95	.09	.764	5.69	.020	12.68	.001
CONTROL	11.24	12.04						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	3.44	-1.82	F=.45	p>.505

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	2.94	1.47	F=3.10	p > .087

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	13.10	13.93	.03	.869	.30	.584	.36	.549
CONTROL	13.17	13.77						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.93	.72	F=.09	p> .760

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-.33	1.06	1.33	F = 1.10	p .339

Appendix M

Telephone Messages

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	2.23	4.13	3.72	.058	13.53	.000	27.28	.000
CONTROL	1.32	1.52						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.69	2.18	F= .43	p> .515

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	2.06	1.74	F= .18	p > .671

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	4.39	5.41	.65	.422	19.94	.000	22.73	.000
CONTROL	4.63	4.33						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.03	1.00	F=.005	p>.945

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	1.11	1.09	.93	F = .041	p .959

Appendix N

Tell Me About Yourself

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	7.07	14.40	2.37	.129	16.76	.000	14.67	.000
CONTROL	8.44	10.80						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	9.63	5.64	F= 6.96 p> .012

	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	6.06	8.63	F= 2.39 p> .131

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	10.92	10.97	2.65	.106	.70	.404	.01	.909
CONTROL	9.36	10.38						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis
Mean Gain	1.97	-1.93	F=5.73 p> .020

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis
Mean Gain	.11	.24	-.67	F = .101 p .905

Appendix O

Goals Test

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	12.00	12.37	5.70	.020	.597	.45	6.10	.016
CONTROL	10.36	10.24						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.69	.23	F= .68	p> .417

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.47	.00	F= .77	p > .388

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	11.78	12.92	3.10	.081	4.75	.031	11.66	.001
CONTROL	12.80	12.69						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.37	.90	F= .26	p>.613

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	1.67	1.52	.07	F = .98	p .381

Appendix P

Obtain Career Information

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	23.18	24.74	6.55	.013	16.60	.001	8.54	.005
CONTROL	25.24	22.96						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.81	1.50	F= .07	p> .790

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	1.94	1.37	F= .22	p > .640

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	24.02	24.83	.27	.604	.53	.468	2.05	.155
CONTROL	23.64	23.86						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	1.23	.38	F= .70	p> .408

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.67	.46	1.73	F = .554	p .578

Appendix Q

California Achievement Test - Reading Vocabulary

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	345.2	361.3	17.42	.000	1.06	.307	2.96	.090
CONTROL	299.0	320.3						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	5.50	21.86	F=2.53	p> .12

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	10.06	12.42	F=.06	p > .806

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	520.6	533.5	7.65	.007	.296	.587	2.22	.139
CONTROL	560.9	578.9						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	19.63	6.03	F= .794	p> .377

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-3.44	20.82	6.47	F = .74	p .480

119

Appendix R

California Achievement Test - Reading Comprehension

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	363.1	380.7	8.87	.004	.15	.694	6.78	.012
CONTROL	321.1	323.6						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	30.38	5.82	F= 3.08	p> .092

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	29.12	3.32	F= 3.49	p > .073

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	534.0	527.2	2.47	.119	5.04	.027	7.64	.007
CONTROL	558.4	579.6						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-19.87	6.72	F=2.09	p>.153

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	27.11	-4.30	-40.27	F = 2.85	p .067

Appendix S

California Achievement Test - Math Computation

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	337.1	347.8	1.49	.227	1.27	.264	.01	.933
CONTROL	316.4	329.3						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	10.75	7.46	F= .11	p> .740

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	13.29	6.32	F= .50	p > .489

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	545.9	576.0	.05	.830	2.09	.151	2.93	.089
CONTROL	550.4	599.5						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	20.57	39.97	F=1.42	p> .238

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	7.78	36.36	30.93	F = .706	p .498

Appendix T

California Achievement Test - Math Concepts and Applications

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	346.5	353.6	1.03	.314	.027	.869	2.46	.122
CONTROL	334.1	334.0						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	6.81	7.09	F= .001	p> .981

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	17.35	-.26	F= 2.06	p > .163

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	521.2	522.5	.03	.867	8.49	.004	9.34	.003
CONTROL	526.0	554.9						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-13.7	16.76	F= 7.62	p>.008

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	.111	7.69	-14.60	F = 1.24	p .298

Appendix U

Attitude Toward School

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	23.18	20.13	.37	.545	.30	.585	3.16	.081
CONTROL	23.88	21.56						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-1.50	-3.96	F= 2.36	p> .133

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-3.18	-2.16	F= .366	p > .551

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	30.10	33.97	.06	.813	.06	.803	.00	.997
CONTROL	30.33	34.66						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	3.07	3.52	F= .03	p> .861

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	4.78	2.45	3.93	F = .25	p .779

123

Appendix V

Career Planning Activities Checklist

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	54.87	54.89	7.04	.010	6.69	.012	.62	.433
CONTROL	44.96	55.24						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	6.25	-4.68	F=4.27	p>.046

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	1.41	-.79	F=.158	p > .693

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	56.56	58.77	1.31	.254	.18	.669	3.97	.048
CONTROL	59.14	62.87						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-.27	.72	F= .04	p>.835

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-6.56	1.15	1.20	F = .671	p .515

Appendix W

Knowledge About A Career

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA * Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	76.41	70.35	.62	.433	3.99	.056	5.75	.019
CONTROL	70.68	107.80						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-1.63	-10.27	F=.82	p> .371

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-7.77	-6.58	F= .014	p > .906

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	74.78	69.24	.29	.594	1.29	.259	4.07	.046
CONTROL	71.81	71.78						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-8.10	-2.90	F=.68	p> .412

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-9.11	-3.61	-9.00	F = .337	p .716

Appendix X

Knowledge of General Career Information

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	58.71	54.49	11.46	.001	5.74	.019	2.29	.135
CONTROL	46.44	51.68						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	.13	-7.64	F= 2.49	p> .124

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-5.65	-2.84	F= .28	p > .60

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA Analysis F	ANCOVA Analysis p> F
SPICE	46.02	40.54	2.36	.127	11.49	.001	8.96	.003
CONTROL	42.34	42.92						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-6.70	-5.27	F= .17	p> .685

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-10.78	-3.55	-5.47	F = 1.046	p .358

Appendix Y

Considering Courses for Careers

EMH Students

	Means		Pretest Analysis		Gain Score Analysis		ANCOVA Analysis	
	Pretest	Posttest	F	p> F	F	p> F	F	p> F
SPICE	6.97	12.46	3.96	.051	10.64	.002	61.98	.000
CONTROL	5.24	7.20						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	3.38	7.05	F=7.22	p>.011

	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	6.06	4.79	F=.72	p > .408

NON-EMH STUDENTS

	Pretest	Posttest	Pretest Analysis F	Pretest Analysis p> F	Gain Score Analysis F	Gain Score Analysis p> F	ANCOVA * Analysis F	ANCOVA * Analysis p> F
SPICE	10.59	9.15	2.12	.148	.85	.357	4.01	.048
CONTROL	12.16	11.23						

SPICE STUDENTS

	Boys	Girls	Gain Score Analysis	
Mean Gain	-.17	-2.90	F=2.90	p>.094

	No Site Visits	One Site Visit	Two Site Visits	Gain Score Analysis	
Mean Gain	-1.00	-1.42	-2.27	F = .148	p .863

127

CHANGES AND PROBLEMS

CHANGES AND PROBLEMS

CHANGES

1. In collaboration with our project officer, the project staff and special education teachers reduced the number of student performance objectives. An important result of the reduction of objectives (from 59 to 27) was a more realistic and comprehensive program. This did not represent any major revision to the project. (See Appendix A)
2. With the concurrence of our project officer and internal evaluator, the method for selecting project non-handicapped students was revised. Non-handicapped project students were randomly drawn from the regular student population at Holly Hill Junior High. The comparison non-handicapped students were selected in the same manner.

   Project personnel felt the change in method of selecting non-handicapped students would facilitate project replication. The use of random selection acts as a control for such variables as prior career education experiences, student attitudes, staff bias toward race, sex or academic level, and disproportionate numbers of students at a given grade level. Project personnel and

and evaluators believed random selection was the only way of insuring the data collected would be of value.

3. At the beginning of the project year, there were 45 students assigned to project EMH classes. That number was reduced to 40 students. One student was assigned to a regular classroom and the remaining four moved out of the project district.
   Non-handicapped student population was reduced from 80 students to 59. This was due to the emigration of 21 students from the school district. Thus, the total number of project students at the end of the project year was 99 rather than 120 as reported to our project officer in August.
   A similar change occurred in the number of students in the comparison EMH and non-handicapped population. The EMH population totalled 27 at the beginning of the project year and 25 at the conclusion. The non-handicapped population was reduced from 74 students to 64. These changes were due to emigration of students from the school district.
4. As a result of relocating all junior high educable mentally handicapped students in the Daytona Beach area to Holly Hill Junior High School, the comparison students were housed at three centers in the county. In identifying the comparison population,

the non-handicapped students were selected from Seabreeze Junior High School in Daytona Beach. The educable mentally handicapped students attended classes at Chisholm Seventh Grade Center in New Smyrna Beach and Southwestern Seventh Grade Center, DeLand. The project and two comparison centers housing EMH students constitute all EMH junior high age students in the district. It was necessary to select both schools in order to have comparable numbers of students for evaluation purposes. This change is mentioned only to call attention to the actual comparison group setting. It did not affect the outcome of the project.

PROBLEMS

1. Non-handicapped students were dispersed throughout the school during the six period day. Many classes had no SPICE students while others had four or five. This distribution of non-handicapped students caused some difficulty in project management. Group meetings, peer facilitation sessions and on-site schedules were provided to teachers and students in writing one month in advance, and verbally on the day the student would be out of class. However, it was at the discretion of the student and teacher

whether he/she could miss the classroom work for that particular hour. This often placed the student in the dilemma of choosing between the SPICE activity or classroom attendance. Cooperation from teachers was outstanding. They allowed students to make up any work missed but many times the student needed to be in class for the lecture or explanation of new materials. Peer facilitation in academic areas was discontinued in the latter part of February, 1979, due to the need for the students to be in class. Peer interaction was thus limited to on-site visitation, student group meetings and project preparation sessions.

2. Information and activities to accomplish student performance objectives were assigned to non-handicapped students as independent study. The majority of the students did not return the work. Some of the students remarked that SPICE was not a class and they would not receive grades for the work. Students also discussed the demand on their time for academic assignments, which was a top priority. Even though many teachers have infused career education into their curriculum and included information to accomplish SPICE student performance objectives, it was not a consistent effort through-

out the school. Thus non-handicapped students received information relating to student performance objectives in weekly group meetings, on-site visits and project preparation sessions, but not in all of their regularly assigned classes.

DISSEMINATION ACTIVITIES

Several types of activities were engaged in by the project personnel to disseminate the Project S.P.I.C.E. program.

1. Orientation meetings were held for all teachers and administrators at Holly Hill Junior High School during the first week of school. The objectives delivery system and related materials and methods were discussed. Time was allowed for questions and answers.
2. An orientation for parents of project students was held during an evening meeting at Holly Hill Junior High. The details of the project were discussed, including the ways in which parents could become involved with career education in the home. To aid in this, handbooks entitled Career Education and Your Child: A Guide for Parents, by Dale Melton, were given to each parent of project students. Subsequent to the meeting, written parental permission was obtained for all project students to participate in the program.
3. Newsletters were prepared and published during the first and second quarters of the project. The newsletters contained information concerning the basic premise, delivery system, components and

activities of the project. Newsletters were distributed to all schools in the district, district career education personnel in Florida, state career education coordinators, directors of career education projects, community career consultants and parents. (See Appendix B) Positive responses and inquiries were received from many persons.

4. Project personnel presented general information concerning the delivery system, components and SPICE effectiveness during the Career Education Pre-planning meeting for career education contact persons from each school in Volusia County.
5. Project Coordinator and Resource Teacher presented information concerning obtaining and effectively using community career consultants to staff members from Volusia County Schools during an inservice workshop, "Career Education: Community and Parental Involvement."
6. Project Coordinator and Resource Teacher presented details of the project to a general meeting of the Daytona Beach Civitan Club. During the presentation, methods were discussed through which the community could become involved with career education and particularly with Project SPICE. Many consultants were obtained from this

meeting. (See Appendix C)

7. Project personnel were interviewed concerning the basic premise of Project SPICE by a reporter from the Holly Hill Junior High School newspaper. This article appeared not only in the school paper, The Rocket, but also in one of the local newspapers, The Halifax Reporter. (See Appendix D and E)

8. Project Director and Coordinator participated in a Technical Assistance Session with Project PEOPLE, Bowling Green, Kentucky City Schools. During the two day visit, Project SPICE personnel presented a multi-media presentation and discussion of the delivery system components of SPICE to the Grade Level meeting of all staff members of the city schools. The discussion was based on methods of replication that could be employed by the teachers in Bowling Green. Copies of Self-Awareness: A Teaching Module SPICE '78 was given to each elementary grade teacher.

   Project personnel also visited in all 8 City Schools to talk with teachers, students and administrators participating in Project PEOPLE. During this time ideas, methods and techniques were shared between projects. (See Appendix F)

   Project PEOPLE coordinator and two elementary school principals visited Volusia County Schools and Project

SPICE during February, 1979. During their visits they observed Project SPICE activities and talked with teachers, students and administrators in various schools throughout the county concerning our career education and exceptional student programs.

9. Project Coordinator and Resource Teacher presented project information to the Chisholm Seventh Grade Center, New Smyrna Beach, school advisory committee. The details of the project were discussed, including ways in which the components of SPICE could be replicated at Chisholm. The advisory committee was positive in their response to SPICE and eager to incorporate components of SPICE into their school program.
10. The Project Coordinator was interviewed by a newsreporter from WESH-TV, Daytona Beach, during a segment of the midday news report. Discussed during the interview was an overview of SPICE and the ways in which students, parents and the community can become involved in career education.
11. Project Director, Coordinator and Resource Teacher presented the project, detailing and describing procedures for implementing Project SPICE activities in a variety of educational settings to the Second General Session of the national conference on "Career Education for Exceptional Individuals" in St. Louis, Missouri in early February. This conference was sponsored by the

National Council for Exceptional Children. (See Appendix G)

12. Project Director, Coordinator and Resource Teacher were interviewed concerning Project SPICE by a reporter from the Daytona Beach News Journal. The reporter also visited during a SPICE group meeting in order to gain first hand knowledge of one of the delivery systems utilized by SPICE. Arrangements were made for a photographer to photograph students during an on-site visit. (See Appendix H)
13. The Rockets 1979 Yearbook of Holly Hill Junior High included a pictorial essay on Project SPICE. (See Appendix I)
14. Project Director and Coordinator presented information concerning the delivery system, components and effectiveness of SPICE during the "Career Education: The Concept and Its Implementation" workshop for Volusia County teachers. Special emphasis was placed on the effective use of community career consultants.
15. Project Coordinator and Resource Teacher assisted Volusia County's Career Education Specialist in preparing a video-tape of a career-oriented on-site experience to be shown during the "Videotaped Career Oriented Tours" workshop for Volusia County teachers. Project SPICE students were videotaped during an on-site visit. Project Coordinator presented an overview

of Project SPICE and effective follow-up procedures to utilize after an on-site visit.

SPECIAL ACTIVITIES

All of the activities incorporated into Project SPICE have been discussed in other portions of this report. Several stand out as being extremely helpful in eliminating prejudicial problems. The peer facilitation has helped students to understand and appreciate their similarities and differences. The on-site and in-class visits by community career consultants have been a positive means of helping the community understand and appreciate the problems of the handicapped. Community career consultants were also eager to point out that they did not engage in discriminatory practices in the hiring of employees. Jobs which had specific physical requirements were discussed and the reasons for those requirements were emphasized.

CAREER EDUCATION PROGRAM

PROJECT PERFORMANCE REPORT

1. Project Number: 554AH80167

2. Grant Number: G007802013

3. Nature of Report: Final

4. Project Title: Project S.P.I.C.E. Special Partnership in Career Education: A Career Education Program for Educable Mentally Handicapped Students.

5. Period Covered by this Report: 07/01/78 through 06/30/79

6. Category of Project: Methods and techniques for special populations: educable mentally handicapped

7. Name of Project Director: Clinton M. Rouse

8. Name and Address of Grantee:

Volusia County Schools
P. O. Box 1910
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REPORT ABSTRACT

Objectives

The purpose of this project was to design a practical, replicable, transportable career exploration curriculum for junior high aged educable mentally handicapped students. Project S.P.I.C.E. (Special Partnership in Career Education) was designed to meet the objectives of the National Standard Career Education Model: Educational Awareness; Career Awareness; Economic Awareness; Beginning Competency; Employability Skills, Self Awareness; Decision Making; Attitudes and Appreciations.

In addition to designing a curriculum to satisfy the above mentioned objectives, Project S.P.I.C.E. was also designed to incorporate the following activities into the curriculum: peer tutoring between EMH and non-handicapped students, community career consultant visitations, on-site visitations, and parental involvement.

Curriculum

The Project S.P.I.C.E. curriculum consists of six career education modules and a guide for setting up a similar program. The six modules are:

I. Self Awareness: This module consists of three units entitled, "Through The Looking Glass," "Looking At Life," "Discovering For Myself."

II. Career/Educational Awareness:

This module consists of a unit on "Exploring Various Occupations."

III. Decision-Making/Beginning Competency:

This module consists of two units, "Gathering Job Information Before Deciding" and "Learning About Skills."

IV. Economic Awareness:

This module contains seven units: "Economic Terms," "Why Do We Need Taxes," "But It Was On Sale," "Credit Buying," "Budgeting," "Everyone Needs Insurance," "Is Borrowing Money Really The Answer."

V. Employability Skills:

This module contains two units entitled "Making Time Count" and "Work Habits."

VI. Attitudes and Appreciations:

This module contains two units entitled "Be A Friend" and "It Takes All Kinds To Make A World."

Each module identifies the National Standard for Career Education as well as specific student performance objectives. In addition, guidelines are given for the organization and use of the module and appropriate evaluation.

A curriculum implementation guide is included which explains the rationale behind the Project S.P.I.C.E. curriculum and provides feasible guidelines for the development and implementation of a similar program in an existing public school. Specific

suggestions are given for establishing the peer tutoring concept, soliciting community career consultants, involving parents, incorporating career education into on-going activities and classes, and seeking school/community support.

Evaluation

Pages 9 through 23 of this report include the full formative evaluation input submitted by the project's internal evaluator, and pages 24 through 92 contain the entire summative evaluation as submitted by the project's external evaluator. In the interest of paper conservation, the reader is being referred to pages 26 through 40 for a synopsis of the evaluation.

Summary

The developers of Project S.P.I.C.E. believe they have produced a practical, replicable, transprotable curriculum to be used for educable mentally handicapped students. The materials have proven to be successful in many areas of career exploration and have not been detrimental to the on-going activities of the classroom.

Project S.P.I.C.E. materials are not considered to be a complete curriculum, however, they are a beginning.

APPENDIX

SUBORDINATE OBJECTIVES (9/20/78)

1) Attitudes and Appreciations Element

Goal: The student will become aware that a job well done is rewarded by his own satisfaction as well as by recognition from others.

Student Performance Objectives	Delivery System	Evaluation
1.1 The project student will develop positive attitudes toward students with learning problems. 1.2 The project student will improve his attitude toward working with varying groups of persons.	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially-Available Materials "The Valuing Approach to Career Education" Kit 6-8 Education Achievement Corporation "Job Attitudes" Series Filmstrips Guidance Associates "How to Hold Your Job" Book John Day Company Sample Activity Students operate a simulated assembly-line production. Students will assist in completing a group task.	1.1 and 1.2 Use of instrument requiring students to rate their attitudes concerning given statements. 1.1 and 1.2 Instrument will be read to the EMH student.

2. Beginning Competency (Skill Awareness) Element

Goal: The student will develop the ability to know where skill training may be learned.

Student Performance Objectives	Delivery System	Evaluation
2.1 The project student will match a list of beginning competencies necessary for twelve occupations with a list of places where the skills may be obtained. 2.2 The project student will increase his use of the following sources of information in communicating about competencies needed for initial employment. A. Parents B. Relatives C. Friends D. Neighbors E. Clubs F. Class Discussions G. Occupational Specialist H. On-site Experiences in the Community I. Community Career Consultants J. Career Days K. Libraries L. Guidance Counselors M. Teachers	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially-Available Materials "Career Directions - Unit 3 (Skill Awareness) Changing Times Education Service "Skills That Pay Off" Filmstrips Popular Science Publishing Co. Sample Activities Students discuss importance of memory in everyday life. Students relate careers in which memory is of utmost importance.	2.1 Use of Instrument requiring student to match beginning competencies to an occupation. (Test will be read to EMH students). 2.2 Use of EPIC Instrument No. M-6 EPIC Instruments have been revised for use with EMH. Test are administered orally to the EMH students individually.

SUBORDINATE OBJECTIVES (9/20/78)

3. Career Awareness Element

Goal: The student will explore the variety of occupations found in the world of work.

Student Performance Objectives	Delivery System	Evaluation
3.1 The project student will demonstrate increased knowledge of the variety of occupations found in the world work.	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially-Available Materials "Job Experience Kits" Science Research Associates "So Many Jobs To Think About," Sets I and II Filmstrips, Educational Development Corporation "Study Print" Series Lerner Publications "When You Grow Up" Series Counselor Films, Inc. "Widening Occupational Roles" Kit Science Research Associates	3.1 Use of EPIC Instrument M-2

3. Career Awareness Element

Goal: The student will explore the variety of occupations found in the world of work.

Student Performance Objectives	Delivery System	Evaluation
	"World of Work" Series Sets I and II McGraw Hill Filmstrips "Career Tapes" (72 Real Jobs Discussed) Macmillan "Interviews" Series Tapes Imperial "World of Work" Series, Films Counselor Films, Inc. "Career Unlimited" Series, Tapes Classroom World Productions Sample Activity Student log their ideas about selected jobs for "before and after" study comparisons. Students will complete occupational profiles for each occupation presented.	

4) Decision-Making Element

Goal: The student will make informative decisions.

Student Performance Objectives	Delivery System	Evaluation
4.1 The project student will list three major types of job information to collect before deciding on an occupation and give an example of each type. 4.2 The project student will list three things that he can do, besides reading about jobs, to get information about an occupation. 4.3 The project student will write the titles of two printed sources of occupational information. 4.4 The project student will list personal skills which contribute to success in an occupation of his choice.	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially Available Materials "Deciding" Workbook, College Entrance Examination Board "Career Decisions" Kit, J. C. Penny Co., Inc. "Deciding What You Want To Do" Kit, Unit I, Changing Times Education Service "Career Directions" Units I & II, (Decision Making) Scholastic Book Service	4.1 through 4.3 Choosing An Occupation Instrument involving multiple choice answers allowing students to select the correct answers. 4.4 Instrument requiring student to name an occupation of his choice and list the skills he feels he is capable of performing for that occupation.

4. Decision-Making Element

Goal: The student will make informative decisions.

Student Performance Objectives	Delivery System	Evaluation
	Sample Activities Students list personal capabilities, limitations, needs, interests, educational expectations and aspired lifestyles. Students study classified sections of newspaper to find jobs for which they feel qualified. In student's workbook, Choosing An Occupation" students read about printed sources of occupational information.	

SUBORDINATE OBJECTIVES (9/20/78)

5. Economic Awareness Element

Goal: The student will demonstrate increased knowledge of A) the economic system and B) Personal Finances

Student Performance Objectives	Delivery System	Evaluation
5.A.1 The project student will be able to match the following terms with definitions: Gross Profit Net Income Stock Certificates Bankruptcy Supply and Demand Auction Interest Medium of Exchange Budget Import Export Communistic Government Democratic Government Wages Taxes Mass Production Production Cost Price Competition Work 5.B.1 The project student will be able to list three services that are paid for by taxes.	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially-Available Materials "Managing Your Money Series: Earning Your Money", Filmstrips, McGraw Hill "Consumer Power: Credit", Film, BFA Educational Media "Consumer", Tape, International Teaching Tapes, Inc. "Consumer Sense", Cassette Tapes, Coronet "Consumer Credit and Money Management" Filmstrips, BFA Educational Media	5.A.1 Use of EPIC Instrument No. M-4 5.B.1 through 5.B.6 Personal Finances Instrument involving multiple choice answers allowing students to select the correct answer(s).

5. Economic Awareness Element

Goal: The student will demonstrate increased knowledge of A) the economic system and B) personal finances

Student Performance Objectives	Delivery System	Evaluation
5.B.2 The project student will be able to list five good shopping rules. 5.B.3 The project student will be able to list four dangers of buying on credit. 5.B.4 The project student will be able to list three reasons for keeping a bduget. 5.B.5. The project student will be able to identify five types of insurance. 5.B.6 The project student will be able to identify high and low interest loan services.	Sample Activities Student writes a paper on the relationship between his present economic situation and his success in school work and/or how his aspired lifestyle can be achieved through a chosen career. Students establish a simulated business of their choosing to put into operation for one week.	

SUBORDINATE OBJECTIVES (9/20/78)

6. Educational Awareness Element

Goal: The student will demonstrate increased knowledge of the level of education and training needed for a variety of occupations.

Student Performance Objectives	Delivery System	Evaluation
6.1 From a list of thirty-six worker titles, the project student will designate the ten who need the most preparation for employment. 6.2 From a list of thirty-six worker titles, the project student will designate the ten who need the least preparation.	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially Available Materials "Discovery: A Career Education Program", Kit, Scholastic Book Services Sample Activities Students research a specific occupation with emphasis on educational requirements. Each student makes a presentation of his research findings.	6.1 Use of EPIC Instrument No. M-3a 6.2 Use of EPIC Instrument No. M-3b

7. Employability Skills Element

Goal: The student will develop characteristics and skills which contribute to career success.

Student Performance Objectives	Delivery System	Evaluation
7.1 The project student will list four things that could happen to him if he is absent from work. 7.2 The project student will state what he should do if he is absent from or late for work. 7.3 The project student will state what he should do if he makes a mistake on the job. 7.4 The project student will list four things that may happen to someone who steals goods from work. 7.5 The project student will record phone messages. 7.6 The project student will list three things to do if he finds a safety hazard at work.	Components 1. Community Career Consultants 2. Career Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially Available Materials "Career Directions" Unit 4 (Employability), Scholastic Book Services "Preparing for an Interview", Filmstrip, J.C. Penny Co., Inc. "Staying with It and Getting Ahead", Kit, Unit IV, Changing Times Education Service "Jobs That Go Someplace", Parts I and II, Filmstrips, Guidance Associates	7.1, 7.2, 7.3, 7.4, 7.6 Work Habits Instrument involving multiple choice answers allowing students to select the correct answer(s). 7.5 Student will write a phone message. Checklist including elements necessary in phone message used for scoring

SUBORDINATE OBJECTIVES (9/20/78)

1. Employability Skills Element

Goal: The student will develop characteristics and skills which contribute to career success.

Student Performance Objectives	Delivery System	Evaluation
	Sample Activity Students role play in predescribed work situation.	

8. Self-Awareness Element

Goal: The student will develop an increased knowledge of how his interests and abilities relate to his future.

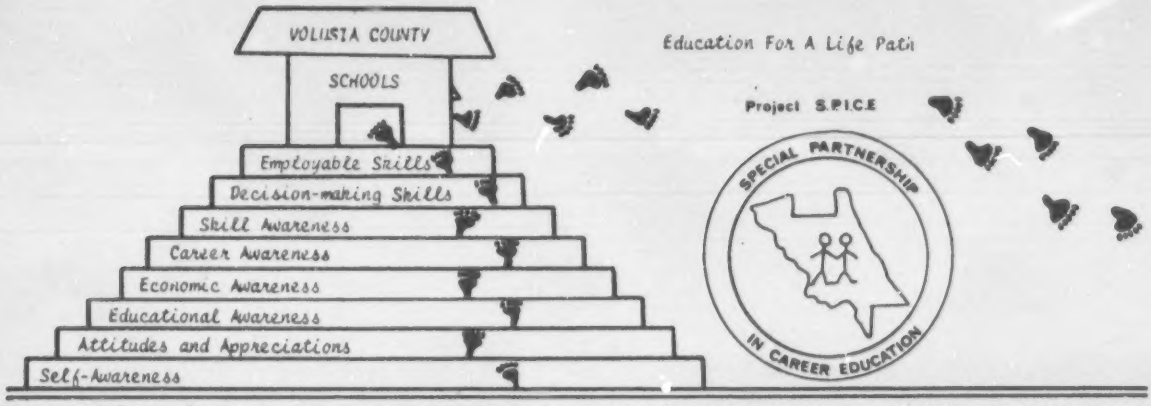
Student Performance Objectives	Delivery System	Evaluation
8.1 The project student will show increased self-awareness by stating: 1) abilities, 2) values, 3) activities in which he can participate, 4) personal characteristics and 5) context, i.e. social and familial. 8.2 Given a list of fifteen personal goals, the project student will indicate which are short-range and which are long-range. 8.3 The project student will state his abilities to obtain career information.	Components 1. Community Career Consultants 2. Career-Oriented On-Site Experiences 3. Student Projects 4. Peer Facilitation 5. Classroom Instruction 6. Parent Participation Relevant Commercially Available Materials "Career Insights and Self Awareness Games", Instructionl Aid, Houghton Mifflin "Career Development", Kit, J. C. Penny Co., Inc. "Career World", Magazine Curriculum Innovations, Inc. Sample Activities Students answer teacher prepared questions pertaining to self and future.	8.1 Student will be asked to "Tell About Himself" in each of the five catagories. There will be a limit of 10 minutes for the entire description. Description given by student will be judged according to Instruction Sheet for "Tell Me About Yourself." 8.2 Goals Test Instrument requiring student to read statement and indicate whether it is a long or short range goal. 8.3 Self-Awareness Instrument involving multiple choice answers allowing students to select the correct answer(s).

SUBORDINATE OBJECTIVES (9/20/78)

8. Self-Awareness Element

Goal: The student will develop an increased knowledge of how his interests and abilities relate to his future.

Student Performance Objectives	Delivery System	Evaluation
	Students have small group discussion with guidance person about their answers to above. Students will make oral presentations about an interest or a hobby. Student will compare his abilities to those required for a specific occupation. Student will explore awareness of his own self-image through A) preparation of a biographical sketch. B) comparing the character traits of that person with his own character traits. C) making an oral presentation of his findings.	



Career Education EMH Program, 1200 Center St., Holly Hill, FL 32017 (904)253-1400

PROJECT S P I C E

SPECIAL PARTNERSHIP IN CAREER EDUCATION

Project SPICE is Volusia County's Career Education Program for Educable Mentally Handicapped Students. Funded as a demonstration project through the U.S. Office of Education's Career Education Program, Project SPICE is designed to develop and demonstrate the most effective methods and techniques for providing career education experiences for junior high age educable mentally handicapped students.

The fundamental premise of Project SPICE is that the career awareness and exploration information level and the career expectations of educable mentally handicapped students will be significantly increased and broadened as those students engage in intensive career awareness learning activities with their non-handicapped age-group peers. Through this "interaction" process, educable mentally handicapped students are provided an enriched learning environment which has a positive effect on their self-concept and on their attitudes toward learning. Non-handicapped students from the regular school program will experience corresponding growth as a result of their participation in the project.

As educable mentally handicapped students and non-handicapped students work and learn together, mutual understanding and acceptance develops between them. They begin to appreciate the unique talents and abilities of each other and develop positive attitudes toward each other. These attitudes contribute to improved performance in school for both groups of students.

Project SPICE is designed to encourage greater community involvement in the educational program. As community members participate in project activities, they develop a better understanding of the total school program and the unique learning needs and abilities of educable mentally handicapped students.

Students participating in Project SPICE are located at Holly Hill Junior High School in Daytona Beach. The educable mentally handicapped students are assigned to special education classes while the non-handicapped students are seventh, eighth and ninth graders. For purposes of project evaluation, comparable groups of non-handicapped students at Seabreeze Junior High School in Daytona Beach, educable mentally handicapped students at Chisholm Seventh Grade Center in New Smyrna Beach and Southwestern Seventh Grade Center in DeLand will be tested both at the beginning and the end of the project. The same testing instruments and procedures will be used with these students.

Project Objective

The principal objective of Project SPICE is to develop a model career education program for thirteen to fifteen year-old educable mentally handicapped students. This model program will be made available to other schools and school districts and will provide a guide for the development of similar programs throughout the state and nation.

Student Objectives

Performance objectives for project students are derived from the eight elements of the National Standard Career Education Model and have been adapted for educable mentally handicapped students. These objectives, and the career education element to which each relates, are:

1. The student will become aware that a job well done is rewarded by his own satisfaction as well as by recognition from others. (Attitudes and Appreciations)

2. The student will develop the ability to know where skill training may be learned. (Beginning Competency)

3. The student will explore the variety of occupations found in the world of work. (Career Awareness)

4. The student will make informative decisions. (Decision Making)

5. The student will demonstrate increased knowledge of a) the economic system and b) personal finances. (Economic Awareness)

6. The student will demonstrate increased knowledge of the level of education and training needed for a variety of occupations. (Educational Awareness)

7. The student will develop characteristics and skills which contribute to career success. (Employability Skills)

8. The student will develop an increased knowledge of how his interests and abilities relate to his future. (Self-Awareness)

Project Components

1. PEER FACILITATION

Throughout the project, educable mentally handicapped students and students from the regular school program are paired for a wide variety of learning experiences. The project coordinator, resource teacher and classroom teachers meet regularly to develop pairing procedures which will best meet the needs of both educable mentally handicapped and regular students.

Peer facilitation is used in improving basic academic skills, planning career-oriented on-site visits, developing student projects, and many other project activities.

While peer facilitation involves pairing an educable mentally handicapped student with a non-handicapped student, it is not assumed that the non-handicapped students will always be the tutor. Peer facilitation is a reciprocal process and must be carefully structured so that both students benefit from the experience.

2. COMMUNITY CAREER CONSULTANTS

Community Career Consultants are the link between project students and the real world of work. Their participation in project activities is vital to the success of the project. They visit classrooms and talk with students about their occupation or business, to explain the educational and training requirements for various occupations, to help students understand the personal characteristics which contribute to career success and to provide other information of interest to students. They also assist project personnel to identify and validate the skills which are generally required to secure and maintain employment in occupations found in the Daytona Beach area.

Community Career Consultants are identified in cooperation with the Daytona Beach Area Chamber of Commerce and other business, civic, and professional organizations in the Daytona Beach area.

3. CAREER-ORIENTED ON-SITE EXPERIENCES

Community Career Consultants also act as sponsors or hosts for student career-oriented on-site experiences. On-site experiences usually involve two to four students, working in pairs. Through such experiences, project students develop a practical, realistic view of the world of work, and the role they may eventually assume in that world. Each project student is scheduled for at least three on-site experiences during the project year.

4. CLASSROOM INSTRUCTION

All special activities of Project SPICE are designed to augment and reinforce regular classroom instruction. Project students are more highly motivated to learn basic skills and other academic subject matter because they now perceive the relationship between school and the real world of work. Project teachers are discovering that students are more enthusiastic about school and more receptive to learning.

5. STUDENT PROJECTS

Project SPICE students are developing a variety of skills by planning and carrying out special projects related to on-site experiences and other project components. A typical project developed by two students is a sound-on-slide program about a day spent in a local retail store. Included

in the program are slide photographs taken by the students and interviews with several workers in the store.

Students may develop their own ideas for special projects or they may select an idea from a list developed by project staff and teachers. A contract agreement between the students and the teacher helps students to develop a greater sense of responsibility and to experience the satisfaction of a job well done.

Completed student projects are presented by the two students who developed them to the total group of project students. These presentations are made to all project students when they are brought together for a weekly sharing session. In this manner, every student will be able to share a variety of career awareness experiences through projects developed by their classmates.

6. PARENT PARTICIPATION

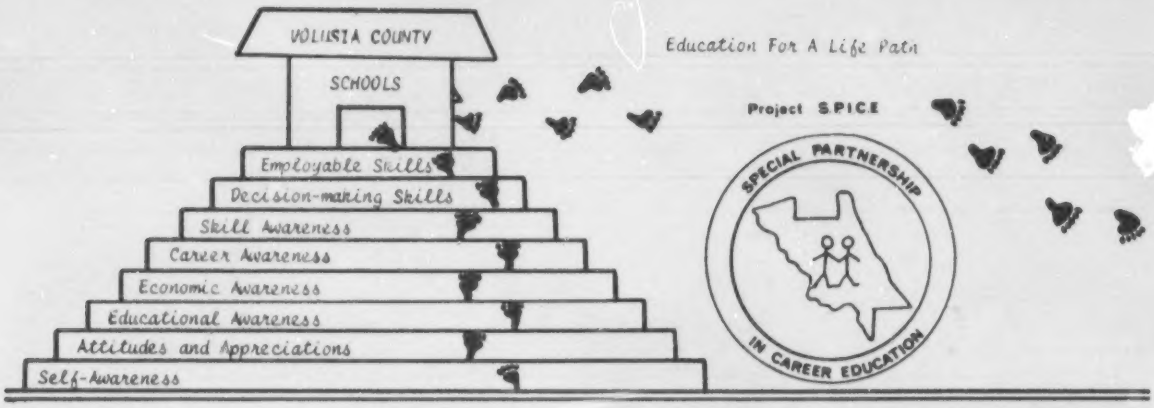
Career education experiences at school must be reinforced by appropriate experiences in the home. Parent involvement in Project SPICE is essential. Parents serve on the Project Advisory Committee and meet regularly with project personnel and teachers to discuss specific home-based activities for project students. Parents are encouraged to assign chores and other home-related responsibilities to students and to keep a record of student progress in such tasks. Parents are also encouraged to include students in family budgeting and financial planning. Through these and other home-related activities, parent participation in Project SPICE is an integral aspect of the project.

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title IX of the Education Amendments of 1972, Public Law 92-318, states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Therefore, career education projects supported under Sections 402 and 406 of the Education Amendments of 1974, like every program or activity receiving financial assistance from the U.S. Department of Health, Education, and Welfare, must be operated in compliance with these laws.

The material in this publication was prepared pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. However, points of view or opinions expressed do not necessarily represent policies or positions of the Office of Education.

Project S.P.I.C.E. Personnel

Director:	Clinton M. Rouse	Internal Evaluator:	Dr. John E. Bailey, III
Coordinator:	Debby H. Emerson	External Evaluator:	Dr. Ronald E. Wiley
Resource Teacher:	Deborah E. McSwain	Secretary:	Susan E. Bradley



Career Education EMH Program, 1200 Center St., Holly Hill, FL. 32017 (904) 253-1400

VOL. 2 NO. 1 OCTOBER, 1978 DEBORAH MCSWAIN, EDITOR

Project S.P.I.C.E. is Volusia County's Career Education Program for Educable Mentally Handicapped Students. Funded as a demonstration project through the U. S. Office of Education's Career Education Program, Project S.P.I.C.E. is designed to develop and demonstrate the most effective methods and techniques for providing appropriate career education experiences for junior high age educable mentally handicapped students.

The primary focus of the S.P.I.C.E. program is the partnership between educable mentally handicapped students and their non-handicapped age group peers. Through this partnership and interaction process in intensive career awareness and exploration learning activities, the educable mentally handicapped and non-handicapped students are provided an enriched learning environment which has a positive effect on their self-concept and on their attitude toward learning.

As educable mentally handicapped and non-handicapped students work and learn together, mutual understanding and acceptance develops between them. They begin to appreciate the unique talents and abilities of each other and develop positive attitudes toward each other.

The central focus of Project S.P.I.C.E., Special Partnership In Career Education, is to make educable mentally handicapped and non-handicapped students aware of career opportunities. Also, S.P.I.C.E. is designed to encourage greater community involvement in the educational program. As community members participate in project activities, they develop a better understanding of the total school program and the unique learning needs and abilities of educable mentally handicapped students and non-handicapped students.

Students participating in Project S.P.I.C.E. are located in classes at Holly Hill Junior High School, Holly Hill, Florida. The educable mentally handicapped students are assigned to special education classes, while the non-handicapped students are seventh, eighth and ninth graders.

For the purpose of project evaluation, comparable groups of students at Seabreeze Junior High School, Daytona Beach, Chisholm Seventh Grade Center, New Smyrma Beach and Southwestern Seventh Grade Center, DeLand, will be tested both at the beginning and the end of the project. The same testing instruments and procedures will be used with these students.

PROJECT COMPONENTS

1. PEER FACILITATION

Throughout the project, educable mentally handicapped students and students from the regular school

program are paired for a wide variety of learning experiences. The project coordinator, resource teacher and classroom teachers meet regularly to develop pairing procedures which will best meet the needs of both educable mentally handicapped and regular students. Peer facilitation is used in improving academic skills, planning career-oriented on-site visits, developing student projects, and many other project activities.

While peer facilitation involves pairing an educable mentally handicapped student with a non-handicapped student, it is not assumed that the non-handicapped student will always be the facilitator. Peer facilitation is a reciprocal process and must be carefully structured so that both students benefit from the experience.

2. COMMUNITY CAREER CONSULTANTS

Community Career Consultants are the link between project students and the real world of work. Their participation in project activities is vital to the success of the project. They visit classrooms to talk with students about their occupation or business, to explain the educational and training requirements for various occupations, to help students understand the personal characteristics which contribute to career success and to provide other information of interest to students. They also identify and validate the skills which are generally required to secure and maintain employment in occupations found in the Halifax area.

3. CAREER-ORIENTED ON-SITE EXPERIENCES

Community Career Consultants also act as sponsors or hosts for student career-oriented on-site experiences. The consultant and the classroom teacher prepare the students for the on-site experiences and plan appropriate follow-up activities. On-site experiences usually involve two to four students, working in pairs. Through such experiences, project students develop a practical, realistic view of the world of work, and the role they may eventually assume in that world.

4. CLASSROOM INSTRUCTION

All special activities of Project S.P.I.C.E. are designed to augment and reinforce regular classroom instruction. Project students are more highly motivated to learn basic skills and other academic subject matter because they now perceive the relationship between school and the real world of work. Project teachers are discovering that students are more enthusiastic about school and are more receptive to learning.

5. STUDENT PROJECTS

Project S.P.I.C.E. students are developing a variety of skills by planning and carrying out special projects related to on-site experiences and other project components. A typical project developed by two students is a sound-on-slide program about their visit to a construction site. Included in the program are slide photographs taken by the students and interviews with several workers on-site.

Students may develop their own ideas for special projects or they may select an idea from a list developed by project staff and teachers. Completed student projects are presented by the two students who developed them to the total group of project students.

Their presentations are made when all project students are brought together for a weekly sharing session. In this manner, every student will be able to share a variety of career awareness experiences through projects developed by their classmates.

6. PARENT PARTICIPATION

Career education experiences at school must be reinforced by appropriate experiences in the home. Parent involvement in Project S.P.I.C.E. is essential. Parents serve on the Project Advisory Committee and meet regularly to discuss specific home-based activities for project students. Parents are encouraged to assign chores and other home-related responsibilities to students and to keep a record of student's progress in such tasks. Parents are also encouraged to include students in family budgeting and financial planning. Through these and other home-related activities, parent participation in Project S.P.I.C.E. is an integral aspect of the project.

STUDENT SELECTION & EVALUATION

The students selected for participation in Project S.P.I.C.E. include the forty-five students enrolled in classes for the educable mentally handicapped as well as seventy-five non-handicapped students chosen randomly from the entire school population.

The use of random selection of students acts as a control for such variables as prior career education, student attitudes, teacher bias toward race sex or academic level, and disproportionate numbers of students at a given grade level.

The best method of randomization, and the one used in this project, is to apply a table of random numbers to the total school population and select the appropriate number of students for the project. Though this method of selection may be time consuming, it is the only way of insuring that the data collected will be of value.

Evaluation of student performance is being measured before and after the project treatment. These measures include performance of project objectives, career education knowledge and basic reading and math skills. The student performance objectives and career education knowledge are being measured through the administration of tests developed by the internal evaluator and the EPIC (Educational Progress In Careers) Test Battery. The California Achievement Test is being administered to determine side-effects in the basic skills areas of reading and mathematics.

Testing procedures are conducted in the same manner for project and comparison groups. The project staff has revised the EPIC Test Battery for the educable mentally handicapped students to meet their instructional level. The EPIC battery and the objective-referenced tests are administered orally to each EMH student.

In selecting the CAT battery of exams, Level 18C was chosen for the non-handicapped and Levels 11C and 13C were chosen for the educable mentally handicapped students.

S.P.I.C.E. IN ACTION

Beginning a new program at a junior high school in which only a small number of students are participating can be a precarious adventure. However, S.P.I.C.E. personnel have found the parents, teachers and administrators of Holly Hill Junior High to be receptive to the concepts and program components of Project S.P.I.C.E.

During the planning stage of the project, the administration, Alex Robertson, Marcie Douglas and Willie Brennon discussed with project personnel the topics of random selection, peer interaction, group meetings, parent participation and pre-testing. By having their direct input into these potential problem areas, we resolved many of the difficulties which could have interfered with effective implementation of the project.

Faculty members have expressed an

interest in the direct benefits to all students from project activities. They anticipate an infusion of project objectives and methods into their existing curriculum to increase career and educational awareness in all students.

As parents of project students have become familiar with Project S.P.I.C.E. they have volunteered their support and assistance throughout the project year. The parents are reinforcing the need for career education experiences in the school curriculum. Project personnel feel that the positive attitudes shown by the parents reflect a concern for and commitment to the goals of Project S.P.I.C.E.

The students of Project S.P.I.C.E. are delighted at being chosen to participate in project activities. They are intrigued with discovering the relationship between school and the real world of work. But more importantly, they are receptive to the concept of learning through peer interaction.

From the positive responses S.P.I.C.E. has received to date, we feel that the project has had a successful beginning. We are anticipating continued success which will be reflected throughout the year by the development of a positive outlook toward career futures for the project students.

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title IX of the Education Amendments of 1972, Public Law 92-318, states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Therefore, career education projects supported under Sections 402 and 406 of the Education Amendments of 1974, like every program or activity receiving financial assistance from the U.S. Department of Health, Education, and Welfare, must be operated in compliance with these laws.

The material in this publication was prepared pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. However, points of view or opinions expressed do not necessarily represent policies or positions of the Office of Education.

Project S.P.I.C.E. Personnel

Director:	Clinton M. Rouse	Internal Evaluator, Dr. John E. Bailey, III
Coordinator:	Debby H. Emerson	External Evaluator, Dr. Ronald E. Wiley
Resource Teacher:	Deborah E. McSwain	Secretary, Susan E. Bradley

PROJECT S.P.I.C.E.
1200 Center Street
Holly Hill, Florida 32017

SPICE NEWSLETTER

EDUCATION FOR A LIFE PATH

Career Education EMH Program, 1200 Center St., Holly Hill, FL. 32017 (904) 253-1400

VOL. 2 NO. 2 JANUARY, 1979 DEBORAH MCSWAIN, EDITOR

PROJECT SPICE IN ACTION

The major components of Project SPICE; peer facilitation, career-oriented on-site experiences, classroom instruction and student projects have been well underway since October 1, 1978. The new year promises continued success through positive interaction among handicapped and non-handicapped students in career awareness and exploration learning activities in the school and community.

STUDENTS WORKING WITH STUDENTS

The interaction between handicapped and non-handicapped students in the classroom and during on-site visits has been a very beneficial and rewarding experience for all project students. The success of peer facilitation in improving academic skills, planning career-oriented on-site visits and developing student projects can best be expressed by the students themselves:

I think it is a very nice thing to be in and we are learning what we're supposed to know about jobs.
Pearlie Mae Hogg

SPICE - I think SPICE is a good program for school. SPICE is getting somewhere.
John Zust

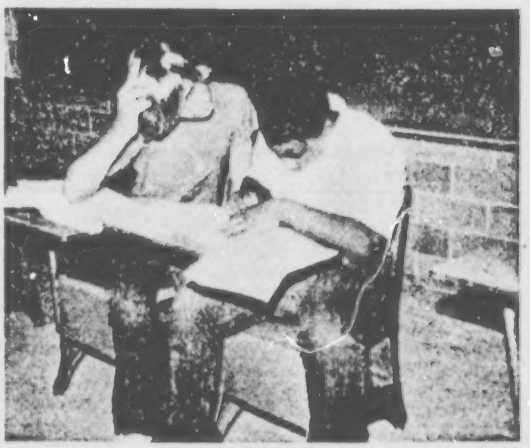
I like it very much and I hope that I will get a job and stay in SPICE as long as I can. It is very good.
Greg Kennedy

I think Project SPICE is very educational. I think it is fun and it also helps people learn about jobs.
John Burton

Project SPICE is a very nice group. In Project SPICE you will learn about different groups, talk about different jobs and go on trips in the community. SPICE is a very good thing for some schools to have. I like it very much. People work with people, the students help each other. Project SPICE is a very educational project. Would you like to be in Project SPICE?
Sylvonia Parris

SPICE stands for Special Partnership In Career Education and it's alright in my opinion.
Stan Baryla

SPICE is a group of young people learning about jobs. It is a very special group of nice people (consultants) who let us interview them.
Theresa Webster



Peer facilitation brings out the strengths in both the handicapped and non-handicapped students and allows them to share and learn together in a setting free of labels and stereotypes.

As the project resource teacher, I have seen innumerable situations where the handicapped student served as the facilitator in the peer interaction process. Also, I have found that students, teachers and community career consultants are unaware of the actual placement of the students as they observe them working together in school or during an on-site visit. Peer facilitation is a reciprocal process which can be beneficial not only to project students but to teachers and community members as well.

THE WORLD OF WORK

To date, the students have participated in twenty (20) career-oriented on site visits. The following letter from a community consultant summarizes the purpose and effectiveness of this approach to career education:

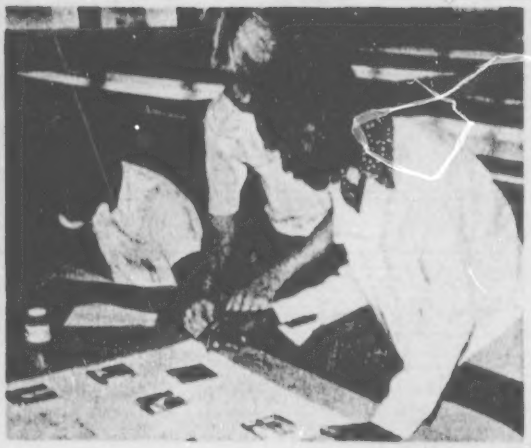
We at Sun Bank of Volusia County were priviledged to have been visited by Project SPICE students who were so interested in seeing actual banking procedures being performed. Listening to the questions being asked in different departments by different students gave us a clue as to whether they would be interested in being a teller, proof operator, bookkeeper or interested in banking at all.

The most important thing for them to learn in school at this age is to prepare for their future as an adult and to continue their education with special efforts in reading, writing and math. The greatest impression made on the students was being able to graduate from high school and start a career in banking without a college degree and to work and take banking courses for self-improvement and advancement in their careers.

The highlight for most of the students was doing actual work performed by bankers, such as operating a proof machine. This emphasized the importance of learning how to use a ten key adding machine. Many jobs in the business world require this knowledge. One factor that impressed me was the opportunity this age group is getting by being exposed to actual working procedures in different businesses so they will be able to determine more readily what they will enjoy doing when they finish high school. This gives them an inside view of different careers.

We at Sun Bank of Volusia County welcome the opportunity to be able to help out future adults prepare for their careers in life.

Shirley Beville - Marketing Dept.



After each on-site visit, the students who attended are responsible for planning and implementing a special project to share with the other students during the weekly project group meeting. The students develop a slide presentation using the slides they took during the on-site visit and discuss any photographs, brochures, posters, drawings or articles they have created which relate to the on-site visit. These projects allow every student the opportunity to create and share a variety of career awareness experiences using their particular expertise. Through this active participation, the students are developing a practical and realistic view of the world of work and the role they may eventually assume in that world.

SPICE IN THE CLASSROOM

A major goal of Project SPICE is to augment and reinforce regular classroom instruction with special career education activities. The project teachers have been using many materials made available by the project personnel, covering such topics as good work habits, applying for a job, banking concepts, values, consumer buying, and social security benefits. The following paragraphs are indicative of the type of positive response Project SPICE has received from the faculty:

"In my opinion, Project SPICE is one of the most worthwhile educational innovations that Volusia County has ever initiated. The personnel involved in the program at Holly Hill Junior High have both the educational training and the strong personal desire to help the students necessary for a project such as this one to work. I especially like the fact that years of teaching experience have made them into top-rate specialists and that they have extended their knowledge in the career education field by hard work and life's best school experience."

"After conversations with my SPICE students, I find them rewarded and enriched by their career awareness and by their ability to help other (EMH) students. I also find that some of these students have a better attitude toward school (and possibly life) because of what SPICE has added to their lives."

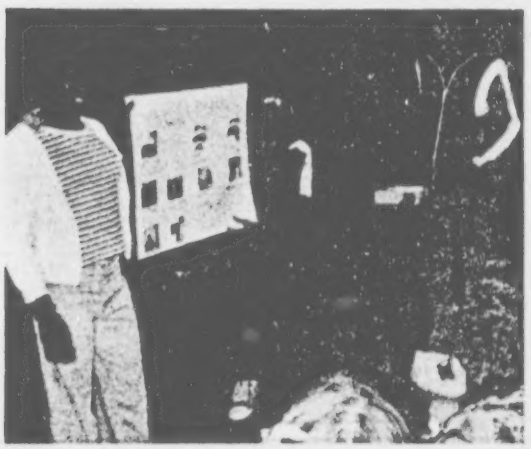
Donna Persis - Language Arts Teacher

"When the list for the students and the places they will visit comes out several of my students light up like opening gifts at Christmas time. They also remember the times they will go and a few of the students in the middle of class will pop-out with "Do you know I go to (name, the place and give the date)."

"After the visit you can overhear them talking to others about what went on if you aren't hearing it first-hand. They smile to find the things they thought were good and bad, interesting and boring."

"Now the most dreaded moment of all - the day of presentations to the rest of the SPICE group. It is that feeling of being so nervous that you wonder how you got yourself into this mess and what excuse you can use to get out of it. But finally somehow it's here and as soon as Mrs. McSwain asks those beginning questions - it's off to the races for most of them. And believe it or not, in most instances, it's my group - special education - that have the ball and going with it in doing most of the talking."

"As for the whole benefits of the SPICE Project, that will be seen in the years to come when they must step into the world of work. But I do feel they have already gained a better insight into the world of work than I had when I entered into it."
Rhonda King - EMH Teacher



PROJECT SPICE STAFF TO
PRESENT PROGRAM TO
NATIONAL CONFERENCE

Project SPICE has been selected for presentation to a national conference on "Career Education for Exceptional Individuals" which is being held by the Council for Exceptional Children in St. Louis, February 7-9, 1979. The presentation will focus on last year's Career Education Program for Educable Mentally Handicapped Intermediate Aged Students as well as the current program for junior high school students.

The presentation, which will be made to the second General Session of the Conference, will be made by the Project SPICE staff. Clinton Rouse, Career Education Coordinator for Volusia County Schools and Project SPICE Director, will be the session leader. Debby Emerson, Project SPICE Coordinator and Deborah McSwain, Resource Teacher, will explain the details of the project and describe procedures for implementing Project SPICE activities in a variety of educational settings, ranging from the elementary grades through the junior high school. The importance of interaction between educable mentally handicapped students and their non-handicapped age-group peers will be stressed throughout the presentation. This interaction strategy, and the various methods for pairing and grouping handicapped and non-handicapped students, are central to the concept of Project SPICE.

Peer tutoring is one of the Project SPICE learning methods which has proven most effective. This technique involves the pairing of a mentally handicapped student with a non-handicapped student to work on a specific skill or learning objective. In some instances, the mentally handicapped student is tutored by the regular student, while in other cases the mentally handicapped student may be the tutor. Peer tutoring is always a reciprocal process involving two-way communication between the EMH student and the regular student.

The presentation will also focus on the uses of the community as a learning laboratory. Project SPICE makes use of dozens of community career consultants. These consultants are local business people, some of whom are the parents of Project SPICE students, who have agreed to share their knowledge of the world of work with students. Some of the community career consultants come to the school to lecture to the students or to demonstrate what they do in their jobs.

Other community career consultants host Project SPICE students for tours, lectures and demonstrations in their place of work. The students, usually one mentally handicapped and one non-handicapped, take slide pictures, interview employees and gather other information which they organize and present to the other students in the project. In all these community-oriented activities, every effort is made to stress the relationship between school and work to emphasize the ways school subjects are applied in the working world.

Parent involvement is an integral component of Project SPICE and this aspect of the project will be an important part of the presentation to the St. Louis conference. Project SPICE staff members will explain how to obtain parent involvement in career education and how to maintain that involvement at a high level of participation. Successful parental involvement in the career education of their child requires that parents help plan and carry out their child's educational program. In many cases, parents actually assign the learning tasks and make periodic reports to the teachers and project staff members.

The goal of the presentation is to acquaint special educators and career education practitioners from all over the country with the locally developed program, and to encourage them to adopt the methods and techniques which have proven effective in Project SPICE.

TECHNICAL ASSISTANCE PROVIDED TO BOWLING GREEN, KENTUCKY CITY SCHOOLS

The Office of Career Education has recognized the need for improving the delivery system for providing Career Education to handicapped students. In realizing the needs of the handicapped students, OCE, in awarding grants to Incremental Improvements Projects, K-12, has stipulated that these projects include in their program objectives, specific plans for serving the handicapped student. These stipulations were made with provisions for technical assistance from OCE and projects funded to serve the handicapped student.

Project SPICE staff members are participating in the technical assistance program by working with Judy White, Coordinator, Project PEOPLE, Bowling Green, Kentucky City Schools. In November, Clinton Rouse, Director and Debby Emerson, Coordinator met with teachers and administrators of the City Schools to present methods and techniques currently employed by Project SPICE to deliver career education experiences to handicapped students.

The presentation, made to teachers and administrators during their grade level meeting, consisted of a multi-media overview of the delivery systems of Project SPICE followed by a discussion of the "how to" of developing a special partnership among handicapped and non-handicapped students in career education and academic experiences. A copy of Self-Awareness: A Teaching Module developed by Project SPICE for the 4th through 6th grade level students was given to each staff member. Mrs. White and the staff members participating in Project PEOPLE will be implementing many of the techniques and strategies discussed during the meeting.

In mid-February, Mrs White and several principals from Bowling Green City Schools will be visiting Volusia County to observe and discuss the delivery systems used by Project SPICE. Through this sharing and observing of ideas, techniques and strategies between projects, the concepts of career education can be enhanced and ultimately all students, handicapped and non-handicapped, will benefit.

A SELF-AWARENESS ACTIVITY

As students discover the world of work, they become familiar with various occupations and the requirements of each. Often it is hard for students to translate those occupations into a potential placement for them. It is very important throughout the development of a career education program to focus attention to the self-awareness of the student.

Periodically, have your students complete statements such as: I can..., I like..., I am..., I dislike... As students become aware of their abilities, interests, values and work preference, they can readily complete these statements and compare them with information they learn about occupations. By comparing information learned about self with occupational information, students can identify an occupation or career cluster in which they may have a realistic future.

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title IX of the Education Amendments of 1972, Public Law 92-318, states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Therefore, career education projects supported under Sections 402 and 406 of the Education Amendments of 1974, like every program or activity receiving financial assistance from the U.S. Department of Health, Education, and Welfare, must be operated in compliance with these laws.

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PROJECT S.P.I.C.E.
1200 Center Street
Holly Hill, FL 32017

Wednesday, October 25, 1978 DAYTONA BEACH EVENING NEWS — 7A

By CORA HUCKINS
News-Journal Community Desk Editor

Educable mentally handicapped and nonhandicapped pupils work and learn together, developing mutual understanding and acceptance in Project SPICE, Volusia County's Career Education Program for Educable Mentally Handicapped Students, according to Debby Emerson and Debbie McSwain. Talking to the Daytona Beach Civitan Club recently, Mrs. Emerson, coordinator, said the program is federally funded through the Department of Health, Education and Welfare on a year to year basis.

The program is conducted at Holly Hill Junior High School with 120 pupils taking part.

Besides helping the mentally handicapped pupils, Mrs. Emerson said, the program helps the nonhandicapped. Some have problems of their own and, as the child cooperates with the handicapped individual, his or her own problems are diminished.

Mrs. McSwain, resource teacher for the project, stressed the need for assistance as the children are taught on a one to one basis. The nonhandicapped children in the project were selected randomly from the entire school population, she said, which acts as a control for such variables as prior career education, student attitudes, teacher bias toward race, sex or academic level and disproportionate numbers of students at a given grade level.

Mrs. McSwain urged businessmen in the area to call and offer to have pupils tour their facilities and be available to answer questions put to them by the children.

The Rocket

APPENDIX D

Volume V, No. 2 Holly Hill Junior High School November 15, 1973

SPICE PROGRAM

I recently interviewed Mrs. Debby Emerson, coordinator of the SPICE program at Holly Hill. SPICE stands for Special Partnerships In Career Education. Mrs. Emerson told me that SPICE was formed to give students a better understanding of what it's like to get, hold, and work at a job.

During the first week of school, 120 students and their parents were notified that they had been picked for the SPICE program. The students were picked at total random, not on basis of scholarship or the lack of it.

In the program, the teachers, Mrs. Emerson and Mrs. McSwain, don't help the students as much as the students help each other, Mrs. Emerson told me. This is another very important aspect of what SPICE is all about. Not only do the participating students learn about holding a job, but they also learn to help others as they help themselves.

The whole group, 120 strong, meets once a week, but during the week several members go on what Mrs. Emerson called "on-sight visits" to different places of business, such as factories, real estate offices, banks, stores, ect, to talk with the people who work there and find out what their jobs are like. This also gives the students some idea of what they might like to be when they grow up.

Business people also come in to the school to talk with students and answer questions.

Holly Hill's SPICE program is not unique, however. 70 other schools around the U.S. have similar programs, but this is the only one called SPICE.

SPICE is federally funded, and this is the first year it has been at Holly Hill. The program itself, however, is two years old. Last year, the ladies from SPICE were working with elementary school students. However, Mrs. Emerson pointed out that this program would probably relate more to Junior High than to elementary school students. Continued

SPICE CONTINUED

SPICE was born in the minds of Mrs. Emerson, Mrs. McSwain, and county coordinator for the Department of Career Education Mr. Clinton Rouse, who also is director of the program. Mr. Rouse introduced the program to the DCE council, who approved it.

SPICE was developed locally and gives students an idea of job availability in Daytona and vicinity. Before SPICE came into existance, Mrs. Emerson taught mentally retarded students. Mrs. Emerson says that the students and the parents seem to ber very excited about the program The first parent meeting was September 21st, and the turnout was excellent. (You will read about the meeting in the next issue of the paper).

SPICE looks like it's going to turn out to be the best thing that has come to HOLLY HILL JR. yet. There is no doubt in this reporter's mind that this program is worthwhile.

The HALIFAX REPORTER Tuesday, October 24,

Holly Hill Junior High

BY FRANK DeMARCO
School Correspondent

I recently interviewed Mrs Debby Emerson, coordinator of the SPICE (Spacial Partnerships In Career Education) program at Holly Hill. Mrs. Emerson told me that SPICE was formed to give students a better understanding of what it's like to get, hold, and work at a job.

During the first week of school, 120 students and their parents were notified that they had been picked for the SPICE program. The students were picked totally at random, not on basis of scholarship or the lack of it.

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Business people also come in to the school to talk with students and answer their questions.

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SPICE is federally funded, and this is the first year it has been at Holly Hill. The program itself, however, is two years old. Last year, the ladies from SPICE were working with elementary school students. However, Mrs. Emerson pointed out that this program would probably relate more to junior high than to elementary, because the junior high kids would be graduating soon and be in need of jobs.

SPICE was born in the minds of Mrs. Emerson, Mrs. McSwain, and county coordinator for the Department of Career Education (DCE), Clinton Rouse, who also is director of the program. Rouse introduced the program to the DCE council, who approved it.

SPICE was developed locally, and gives students an idea of job availability in Daytona and vicinity.

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Mrs. Emerson says that the students and the parents seem to be very excited about the program. The first parent meeting was Sept. 21, and the turnout was excellent.

SPICE looks like it's going to turn out to be the best thing that's come to Holly Hill Junior yet. There is no doubt in this reporter's mind that this program is worthwhile.

Career Education REVIEW

Happy Holidays

Second Issue of the '78-'79 School Year
CAREER EDUCATION in the Bowling Green, Kentucky, City Schools

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Fall Grade Level Meeting Held:

On November 8, Bowling Green staff members participated in their first Grade Level meeting for the '78-'79 school year. This year, one of the major Career Education objectives deals in working with handicapped students. As part of Technical Assistance provided to Bowling Green by the U.S. Office of Career Education, two staff members from Project SPICE in Daytona, FL, Clint Rouse and Debby Emerson, visited the City Schools. During the meeting, they presented a most interesting overview of their Career Education project, which is aimed at EMH students. Bowling Green staff members were given one of the SPICE publications on Self-Awareness, and will be implementing ideas obtained during the meeting.

*****

Bowling Green Staff Members Visit KVEC Project:

During the week of November 13-17, several staff members from the elementary and Junior High Schools enjoyed a visit to the KVEC Career Education Project, which serves rural Appalachia. The staff members were impressed with the high degree of visibility of Career Education activities in the KVEC schools, and obtained many ideas to use in Bowling Green. Our thanks to Dr. Owen Collins, Mr. Hargus Rogers, and all the fine teachers and administrators who provided us with a wonderful visit!

****

Junior High Teacher Receives Award:

Gene Preston, Junior High Science teacher, recently was a runner-up in the Kentucky "Teacher of the Year" competition, sponsored by the State Department of Education. Congratulations, Gene!!! We're proud of you!!!

****

With Best Wishes for a Happy Holiday!

Volusia School Program Goes To National Meet

Project SPICE (Special Partnership In Career Education), a career education program developed in the Volusia County public school system for mentally handicapped students, will be presented to a national conference on "Career Education for Exceptional Individuals" in St. Louis, Mo., early next month.

The locally developed program is funded by the U.S. Office of Career Education and is being piloted at Holly Hill Junior High School. It is designed to develop and demonstrate the methods and techniques to providing career education to educable mentally handicapped students.

The presentation in St. Louis will be made by members of the Project SPICE staff headed by Clinton Rouse, career education coordinator, Debby Emerson, Project SPICE coordinator, and Deborah McSwain, resource teacher, will explain the details of the project and describe procedures for its implementation in a variety of educational settings ranging from the elementary grades through junior high.

"The importance of interaction between educable mentally handicapped students and their peers will be stressed throughout the presentation," Rouse said. "The interaction strategy, and the various methods for pairing and grouping handicapped and non-handicapped students, are central to the concept of Project SPICE."

The local program includes peer tutoring, the use of the community as a learning laboratory by utilizing career consultants from the private sector and parent involvement.

Holly Hill Junior High Initiates S.P.I.C.E.Program

Project S.P.I.C.E. (Special Partnership In Career Education), a career education program for educable mentally handicapped students, will be presented to a national conference on "Career Education for Exceptional Individuals" in St. Louis in early February. The locally developed program, which is funded by the U.S. Office of Career Education and is currently being piloted at Holly Hill Junior High School, is designed to develop and demonstrate the most effective methods and techniques for providing career education to educable mentally handicapped students.

The presentation, which will be made to the second General Session of the Conference, will be made by the Project SPICE staff. Clinton Rouse, career education coordinator for Volusia County Schools and Project SPICE Director, will be the session leader. Debby Emerson, Project SPICE coordinator and Deborah McSwain, resource teacher, will explain the details of the project and describe procedures for implementing Project SPICE activities in a variety of educational settings, ranging from the elementary grades through the junior high school. The importance of intereaction between educable mentally handicapped students and their non-handicapped age-group peers will be stressed throughout the presentation. This interaction strategy, and the various methods for pairing and grouping handicapped and non-handicapped students, are central to the concept of Project Spice.

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The presentation will also focus on the use of the community as a learning laboratory. Project SPICE makes use of dozens of community career consultants. These consultants are local business people, some of whom are the parents of Project SPICE students, who have agreed to share their knowledge of the world of work with students. Some of the community career consultants come to the school to lecture to the students or to demonstrate what they do in their jobs. Other community career consultants host Project SPICE students for tours, lectures and demonstrations in their place of work. The students, usually one mentally handicapped and one non-handicapped, take slide pictures, interview employees and gather other information which they organize and present to the other students in the project. In all these community-oriented activities, every effort is made to stress the relationship between school and work and to emphasize the ways school subjects are applied in the working world.

Parent involvement is an integral component of Project SPICE and this aspect of the project will be an important part of the presentation to the St. Louis conference. Project SPICE staff members will explain how to obtain parent involvement in career education and how to maintain that involvement at a high level of participation. Successful parental involvement in the career education of their child requires that parents help plan and carry out their child's educational program. In many cases parents actually assign the learning tasks and make periodic progress reports to the teachers and project staff members.

The goal of the presentation by the local educators is to acquaint special educators and career education practitioners from all over the country with the locally developed program, and to encourage them to adopt the methods and techniques which have proven effective in Project SPICE.

The HALIFAX REPORTER, Tuesday, January 16, 1979

Evening News

DAYTONA BEACH, FLORIDA, WEDNESDAY, JANUARY 31, 1979

Project SPICE Brings Two Worlds Together

By LINDA TRIMBLE
News Journal Education Writer

Partnerships — between students and teachers, among students and between the school and community — are what Project SPICE is all about.

SPICE, which stands for Special Partnership in Career Education, is a pilot project at Holly Hill Junior High this year financed by a $60,000 federal grant.

About 110 students, a mix of mentally handicapped youngsters and those in regular classes, are learning about occupations ranging from glass cutting to management of a utility company.

The project is similar to one for fourth, fifth and sixth graders that operated at Starke and George Marks elementary schools in DeLand last year. It's aimed at making the children more aware of the variety of careers open to them and, at the same time, improving the relationships between the mentally handicapped and other youngsters.

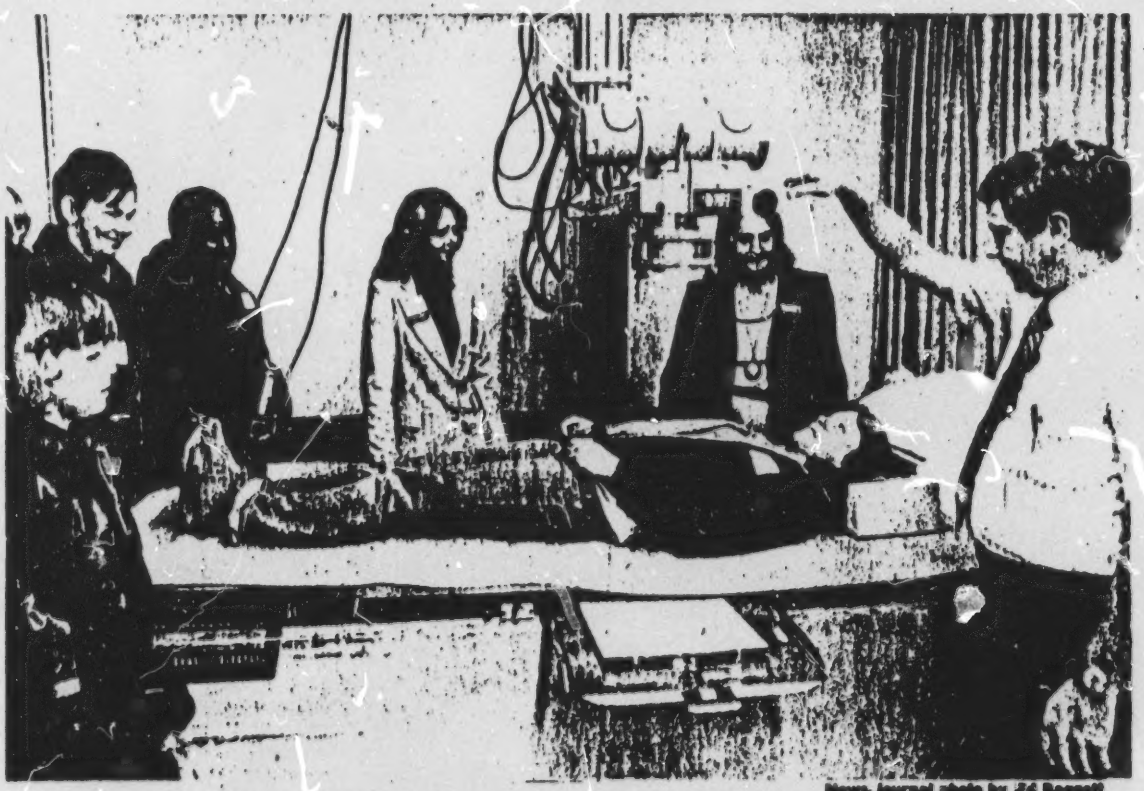
"We avoid labels and emphasize that each person is unique in his abilities, likes and dislikes," explained Debby Emerson, SPICE coordinator, in a recent interview.

Mrs. Emerson and Deborah McSwain, resource teacher, work directly with the students. Clinton Rouse, career education coordinator for the county schools and one of the principals in development of the program, serves as director of Project SPICE.

Students meet as a group once a week

(See SPICE On Page 2B)

193



News-Journal photo by Ed Bassett

PROJECT SPICE STUDENTS GET X-RAY DEMONSTRATION AT HALIFAX
Teachers Deborah McSwain, Debby Emerson, Hospital Stafter Bud Hinkle look on as Shelly Little tries table

194

APPENDIX H

SPICE—

(Continued From Page 1B)

to hear reports on their visits to area businesses and agencies. They also participate in group activities aimed at helping them learn more about their career interests and abilities.

In between, randomly selected small groups of students visit businesses to learn firsthand about job requirements, working conditions and benefits. A recent week's agenda included visits to Halifax Hospital, Tomoka State Park and a fast food restaurant.

Students are randomly selected for the visits despite what their particular career interests might be. "We want to expose them to things they might not have considered," said Mrs. McSwain.

Although the teachers recognize that the handicapped students may not be able to fill certain careers that they observe, they want the students to learn about those jobs anyway. Learning about those jobs includes finding out about the requirements for doing them and the teachers believe the youngsters will find out for themselves what they can and can't do. "We're not leading them into any occupation," said Mrs. Emerson.

When they visit businesses, the students take pictures, interview workers and gather any prepared brochures or other information they can get their hands on.

Once they return to school, they work together preparing a presentation for the rest of the SPICE group to tell fellow students about jobs available at the business, training requirements for them and what kinds of services the business performs.

Another important part of Project SPICE is a peer tutoring program. At the request of their classroom teachers, children are paired so that one who has a lot of ability in a particular area can help a student who's having problems in that area.

Often, explained Mrs. Emerson, a child can communicate better with someone his own age and get an insight into a problem through a fresh approach. However, the peer tutoring is a two way street, Mrs. Emerson emphasized, and the child who already knows the material strengthens his abilities by helping the other child.

The peer tutoring is done on a short term, spot basis. Some SPICE students will have several sessions during the year, others may have none. "The tutoring situations are set up as the teachers see a need," said Mrs. Emerson.

She, Rouse and Mrs. McSwain will make a presentation on Project SPICE at a national conference in St. Louis Feb. 6 through 9. It will be geared toward encouraging other educators to adopt methods that have been successful in the local project.

The federal grant for Project SPICE is for one year only. Rouse said he's hopeful some elements of the program will be picked up next year and incorporated into the local program for mentally handicapped students.

"We've broken a lot of ground in mainstreaming of handicapped students," he said.

FROM: THE ROCKETS 1979 YEARBOOK OF HOLLY HILL JUNIOR HIGH SCHOOL.

SPICE

SPICE stands for Special Partnerships In Career Education. This new pilot program was formed to give students a better understanding of what it's like to get, hold, and work at a job. During the first week of school, 120 students and their parents had been notified that they had been chosen for the project. They were picked at total random, not on a basis of scholarship or the lack of it.

The group meets once a week, but during the week members meet individually with Mrs. Emerson and Mrs. McSwain for "on-sight visits" to different places of businesses, such as factories, real estate offices, banks, stores, etc. Another very important aspect of the program is peer counciling. The students learn to help others as they help themselves.